PHYSICAL
SCI.LIB.

TC
.324
C2
A2
NO.163

CALIFORNIA. DEPT. OF WATER RESOURCES.
BULLETIN.

OCD LIBRA

PHYSICAL
SCIENCES
LIBRARY

STATE OF CALIFORNIA
The Resources Agency

Department of Water Resources

BULLETIN No. 163

RECEIVED
MAR 23 1979
MAR 15 1979
PHYS SCI LIBRARY

WEST SIDE CROP ADAPTABILITY STUDY

MARCH 1970

UCD LIBRARY

LIBRARY
UNIVERSITY OF CALIFORNIA
DAVIS

NORMAN B. LIVERMORE, JR.
Secretary for Resources
The Resources Agency

RONALD REAGAN
Governor
State of California

WILLIAM R. GIANELLI
Director
Department of Water Resources

Digitized by the Internet Archive
in 2010 with funding from
University of California Libraries

http://www.archive.org/details/westsidecropadap163cali

STATE OF CALIFORNIA

The Resources Agency

Department of Water Resources

BULLETIN No. 163

WEST SIDE CROP ADAPTABILITY STUDY

MARCH 1970

NORMAN B. LIVERMORE, JR.
Secretary for Resources
The Resources Agency

RONALD REAGAN
Governor
State of California

WILLIAM R. GIANELLI
Director
Department of Water Resources

Copies of this bulletin at $3.00 each may be ordered from:

Office of Procurement
DOCUMENTS SECTION
P.O. Box 20191
Sacramento, California 95820

Make checks payable to STATE OF CALIFORNIA.
California residents add 5 percent sales tax.

FOREWORD

The Department of Water Resources, in cooperation with the University of California and the U. S. Weather Bureau, has completed the first detailed study of climate ever made in a large, irrigable area prior to its agricultural development. This unique climate study, together with certain specialized soil investigations, was undertaken to provide increased knowledge of crop adaptability in an area of about 625,000 acres lying along the western edge of the San Joaquin Valley in Fresno, Kings, and Kern Counties. The area generally receives less than six inches of rainfall annually.

In an undeveloped but potentially irrigable region such as that studied, both the amount of irrigation water needed and the economic feasibility of paying for such a supply depend upon what crops can be grown. The crop adaptability, in turn, hinges on both climate and soil. Because of this area's location and elevation, the cost of water must be relatively high. Development of high paying specialty crops and irrigation systems that can use such water profitably requires years of time and large investments. Not only farmers but food processing, fertilizer, and other agricultural industries must commit themselves to the undertaking. Thus, there are compelling reasons to avoid the ancient trial-and-error approach to crop adaptability determination.

For five years the Department carefully studied air and soil temperatures, precipitation, evaporation, humidity, winds, and daylight fog and cloud conditions in this area. While this climate inventory provides good insight as to variability and average conditions to be expected within the region, the long-term climate will remain unknown until these local data can be correlated with long-term data available only at remote stations. Funds required to make this correlation are lacking. Furthermore, observations must be made at many additional sites to isolate small areas of extreme climate hazard or of significantly more favorable conditions. Nevertheless, a broad impression of major climate characteristics in different parts of this region has emerged.

Supplementing the Department of Water Resources earlier studies of land irrigability, reconnaissance soil boron and salinity measurements were made to characterize the general degree of these problems in most parts of the study region. A relatively small acreage appears to have serious problems of this nature.

Data presented in this report, either alone or together with more detailed information made available to agricultural agencies, permit estimates of the probable success of climate sensitive crops in most parts of this vast area. Further, sufficient data are available to indicate varieties and species best adapted, to suggest probable optimum planting and harvest dates for sensitive annual crops, to estimate need for such practices as frost and wind protection, and to point up the location and kind of some of the soil problems. To locate small areas of more favorable or unfavorable climate or soil conditions, individual owners should make appropriate additional measurements throughout their entire landholdings.

Two presently evolving projects are destined to have far-reaching impact on this region's development. These are the California Aqueduct and the West Side Freeway which border or traverse the area from one end to the other. These facilities will bring water and people and they will profoundly change the environment. Data presented in this report provide a basis for evaluation of some of these changes. More than this, they point the way toward those changes that will result not only in maximum economic benefit but in maximum environmental enhancement as well.

William R. Gianelli

William R. Gianelli, Director
Department of Water Resources
The Resources Agency
State of California

ABSTRACT

The West Side Crop Adaptability Study Area is a 625,000-acre block of largely undeveloped irrigable land lying along the southwestern and southern edges of the San Joaquin Valley. Data accumulated over a five-year study period from 82 specially installed climate stations indicate that large areas apparently are adaptable to citrus and vineyard although heating and wind protection will be required for citrus, and wind protection will be desirable for vineyard. In other specified areas, citrus is not adaptable, and grape growing could be hazardous because of winter cold. The entire area apparently is climatically suitable for specific varieties of deciduous fruits and nuts. Vegetable and field crops may be grown throughout the area if planting times are adjusted to meet the indicated temperature conditions. Avocados do not appear to be adaptable to the climate. Wind will present some hazard in nearly all parts of the area to most crops, and windbreaks probably will become a common practice.

Soils are mostly deep and fertile in the 80 percent of the study area having flat or very gentle slopes. Salinity and/or boron problems occur on about 40 percent of this land but these problems are of a serious nature on only 10 to 20 percent. Leaching and drainage will be required to overcome these problems in the severely affected areas. The 20 percent of the study area having gentle to moderate slopes have soils of more variable depth but these areas are not affected by soil salinity or boron.

Tabulations of soils and climate data and generalized maps of soil salinity and boron are included.

CONTENTS

Page

Foreword 3
Abstract 4
Organization, Department of Water Resources 6
Acknowledgments 7
Westside Crop Adaptability Study 9
The Area 10
Water, Land, and Climate 11
Water 11
Land 11
Land Slope 12
Soil Salinity 12
Soil Boron 13
Climate 16
Precipitation 21
Evaporation 25
Cloud Conditions 28
Wind 30
Soil Temperature 35
Humidity 38
Air Temperature 43
Vegetable Crops 49
Field Crops 49
Grapes 49
Deciduous Tree Fruit and Nut Species 50
Citrus Fruit 50
Bibliography 83

TABLES

Table 1: Irrigable Land, by Elevation Zones 10
Table 2: Irrigated Land 11
Table 3: Irrigable Land, by Land Slopes 13
Table 4: Saline Soils, by Elevation Zones 13
Table 5: Network Stations 18
Table 6: Air and Soil Temperatures, Humidity, Wind, Clouds: Average Data, 1964 through 1967 . . . 20
Table 7: Precipitation 22
Table 8: Evaporation 24
Table 9: Consumptive Use by Irrigated Crops: 1963-65 and 1967 26
Table 10: Cloud Conditions, in days 29
Table 11: Wind 31
Table 12: Soil Temperature, in degrees Fahrenheit 36
Table 13: Relative Humidity 38
Table 14: Air Temperature: Monthly and Annual Extremes 52
Table 15: Air Temperature Details 61
Table 16: Air Temperatures Critical to Deciduous Fruit Production 50

FIGURES

Figure 1: West Side Crop Adaptability Study Area 8
Figure 2: Soil Salinity 12
Figure 3: Boron in the Surface Foot of Soil 15
Figure 4: Boron in the Subsoil-One to Five Feet 16
Figure 5: Climate Stations 17
Figure 6: Monthly Net Atmometer Evaporation 27

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

RONALD REAGAN, Governor
NORMAN B. LIVERMORE, JR., Secretary for Resources
WILLIAM R. GIANELLI, Director, Department of Water Resources
JOHN R. TEERINK, Deputy Director

SAN JOAQUIN DISTRICT

Carl L. Stetson . . . . . District Engineer
Floyd I. Bluhm . . . . . Chief, Water Supply and Utilization Section

This investigation was conducted and the
bulletin was prepared under the supervision of

Eldred S. Bliss . . . . . Chief, Water Utilization Unit

Assisted by

James E. Rupert . . . . . Water Resources Technician I
Eugene M. Pixley . . . . . Assistant Land and Water Use Analyst
Robert A. Wendt . . . . . Assistant Land and Water Use Analyst

Special services were provided by

Joseph B. Powers . . . . . Meteorologist III
John W. Shannon . . . . . Water Utilization Staff Specialist
Norman A. MacGillivray . . . . . Associate Land and Water Use Analyst
James S. Hanna, Jr. . . . . Supervisor of Technical Publications

---

Technical direction and climate data
interpretation were provided by

UNIVERSITY OF CALIFORNIA WATER RESOURCES CENTER
ADVISORY COMMITTEE TO THE WEST SIDE CROP ADAPTABILITY STUDY

Dewayne E. Gilbert . . . . . Chairman

ACKNOWLEDGMENTS

The coordinator for participation by agencies associated with the West Side Crop Adaptability Study was the Advisory Committee established by the Water Resources Center of the University of California. Membership of this committee was as follows:

University of California
- Dewayne E. Gilbert, Extension Bioclimatologist, Davis--Committee Chairman
- Dillon S. Brown, Professor of Pomology, Davis
- James A. Cook, Professor of Viticulture, Davis
- K. L. Coulson, Professor of Meteorology, Davis
- Marston Kimball, Extension Bioclimatologist, Emeritus, Los Angeles
- Oscar Lorenz, Professor of Vegetable Crops, Davis
- R. Merton Love, Professor of Agronomy, Davis
- Robert G. Platt, Extension Subtropical Horticulturist, Riverside
- Walter Reuther, Professor of Horticulture, Riverside
- Herbert B. Schultz, Professor of Agricultural Engineering, Davis

United States Weather Bureau
- C. Robert Elford, California State Climatologist, San Francisco

Department of Water Resources
- Joseph B. Powers, Meteorologist, Sacramento
- John W. Shannon, Water Utilization Staff Specialist, Sacramento

The active interest and support of the following three men have been of particular help throughout the study:

- John Hoyt, County Director, Kern County Agricultural Extension Service, Bakersfield
- George Ferry, County Director, Kings County Agricultural Extension Service, Hanford
- Stephen Carlson, Assistant State Director, Agricultural Extension Service, Davis

The following cooperators maintained daily records of precipitation and/or temperature for all or part of the study period:

- Kern County Fire Department, Lost Hills (Station D-05-028)
- Fresno County West Side Fire District, Coalinga (Station G-20-060)
- Coalinga Feed Yards, Incorporated, Coalinga (Station H-05-100)
- Getty Oil Company, Coalinga (Station H-10-080)
- L. D. Folsom, Incorporated, Coalinga (Station H-15-070)

The following agencies and organizations supplied data:

- United States Bureau of Reclamation, Coalinga
- United States Weather Bureau, Fresno and Bakersfield
- Kern County Agricultural Extension Service
- Kern County Land Company, Bakersfield
- Taft Radio KTKR, Taft

The following agencies helped to calibrate instruments during the early period of the study:

- Department of Entomology, University of California, Berkeley
- United States Agricultural Research Service
  - Crop Research Division, Fresno
  - Soil and Water Conservation Research Division, Fresno

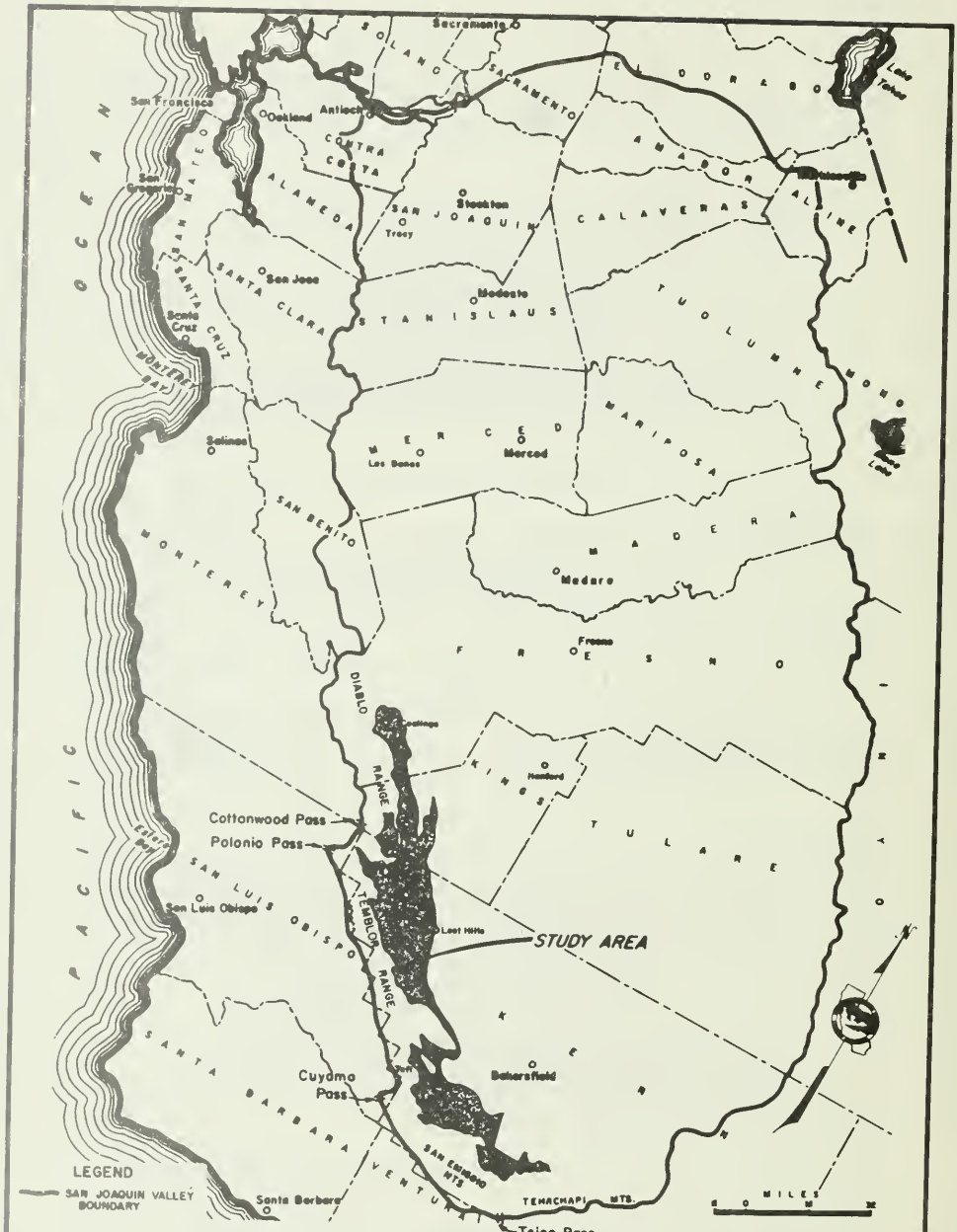


FIGURE I. WEST SIDE CROP ADAPTABILITY STUDY AREA

WEST SIDE CROP ADAPTABILITY STUDY

One of the few large, high quality irrigable acreages remaining undeveloped in California lies along the western and southern edges of the San Joaquin Valley floor in Fresno, Kings, and Kern Counties. Short-lived annual plants make up the greater part of its native vegetation. A few perennial shrubs and grasses grow at higher elevations. Irrigation waters directed into this region someday will nurture vine and truck crops, citrus trees, nuts, plums, and apricots--produce which long has enriched the economy of California. Conducted in this desert region, the West Side Crop Adaptability Study is the first, systematic, detailed study of the climatic environment ever made of a large area prior to its agriculture development. Figure 1 shows the location of the study area in relation to the valley.

The California State Department of Water Resources, with the active cooperation of the University of California and the United States Weather Bureau, initiated the West Side Crop Adaptability Study in 1962. The objectives of the study were: (1) to determine the adaptability of specific crops to the climate and soils of the region under conditions of future irrigation, and (2) to provide the data needed to analyze the eventual change in climate which future irrigation would produce. Although available funds permitted only limited study of crop adaptability, the Department accomplished the greater part of its second objective: this report provides more than five years of climate data for a 625,000-acre irrigible area as yet almost untouched by irrigation. The long-term climate of this area will remain unknown, however, until local climate data can be correlated with long-term climate data recorded at remote stations. The funds required to make this correlation are lacking.

Political leaders of the communities, the water agencies, and the three counties in the study area have expressed their support of the West Side Crop Adaptability Study not only before executive and legislative branches of the State, but also with sizeable financial contributions. Easements for the climatological stations and permission to enter private property to reach those stations have been readily granted by interested individuals, by corporations, and by district and county officials.

An advisory committee, established by the Water Resources Center of the University of California, has given valuable technical counsel to the program and has greatly helped in interpreting the data collected. The Advisory Committee included representatives from the following departments of the University of California: Agricultural Engineering, Agricultural Extension, Agronomy, Geography, Pomology, Vegetable Crops and Viticulture at Davis; Agricultural Extension at Los Angeles; and Agricultural Extension and Horticultural Science at Riverside. It included a meteorologist and a water utilization specialist from the Department of Water Resources as well as the State Climatologist from the United States Weather Bureau, San Francisco.

The Area

The eastern boundary of the study area lies generally along the 300-foot contour line; the northern boundary is the northern edge of irrigable land in Pleasant Valley; the boundaries to the west and south are the upper limits of irrigable land (1200 to 1500 feet above sea level) on the eastern slopes of the Diablo and Temblor Ranges and the northern slopes of the San Emigdio and Tehachapi Mountains. Four principal breaks in these ranges serve as highway passes and as wind tunnels for air movement from the sea. These are Cottonwood, Polonio, Cuyama, and Tejon passes with elevations of 2000, 1800, 2950, and 4200 feet, respectively. Through these passes, the air flow reaches 25 to 30 miles an hour with greater gusts not uncommon. The flow diminishes in intensity as it rapidly spreads out across the study area.

Although climatological measurements were taken only within the study area, the major air mass dominating that area is of ocean origin. Modified by land extending some 40 to 60 miles between the study area and the Pacific Ocean, this air mass loses much of its maritime character, however. During the summer, it warms and its relative humidity decreases. As it lifts over the mountains, occasional thunder showers fall, most of them on the western slopes of the Temblor and Diablo Ranges and the southern slopes of the San Emigdio and Tehachapi Mountains. The study area, which lies in the rain shadow, receives little of this summer rain. During the winter, the maritime-tropical air, being warm and moist, deposits the bulk of the rain throughout the land mass, including the study area. In addition, the air is cooled by the land; its moisture condenses and forms fog. The study area, while not immune from valley fog, receives fewer days of fog and a less dense fog than does the eastern side of the San Joaquin Valley at comparable elevations.

Low hills interrupt and surround some of the valley lands. Alluvial fans slope gently upward to the western and southern mountains. Except for rare flood discharges lasting from a few hours to a few days, the drainages emerging through these fans carry no sustained flow to the almost flat

Table 1: IRRIGABLE LAND, BY ELEVATION ZONES*

Elevation, in feet	Acres											
	Kern County			Kings County			Fresno County			Total		
	Irrigated	Non Irrigated	Irrigable	Irrigated	Non Irrigated	Irrigable	Irrigated	Non Irrigated	Irrigable	Irrigated	Non Irrigated	Irrigable
300-400	20,400	65,000	85,400	0	8,100	8,100	0	0	0	20,400	73,100	93,500
400-500	18,500	71,100	89,600	2,700	15,000	17,700	100	0	100	21,300	86,100	107,400
500-600	4,900	70,400	75,300	100	17,900	18,000	5,100	3,600	8,700	10,100	91,900	102,000
600-700	7,100	52,300	59,400	3,600	11,700	15,300	16,300	3,900	20,200	27,000	67,900	94,900
700-800	2,700	53,500	56,200	1,000	15,300	16,300	6,800	5,900	12,700	10,500	74,700	85,200
800-900	1,400	35,800	37,200	700	9,400	10,100	2,500	6,200	8,700	4,600	51,400	56,000
900-1000	600	24,800	25,400	0	1,600	1,600	500	3,700	4,200	1,100	30,100	31,200
1000 +	500	50,000	50,500	0	1,800	1,800	0	2,100	2,100	500	53,900	54,400
TOTALS	56,100	422,900	479,000	8,100	80,800	88,900	31,300	25,400	56,700	95,500	529,100	624,600

* 1956-58 land use and land classification surveys

Table 2: IRRIGATED LAND

Crops	Acres	
	1956-58	1966(New)A/
Orchard and Vineyard		
Deciduous Orchard	200	0
Citrus Orchard	(20)B/	300
Vineyard	200	300
Subtotal	400	600C/
Field, Forage and Truck		
Grain and Cotton	73,600	5,300
Miscellaneous and Fallow	21,500	5,600
Subtotal	95,100	10,900
TOTAL	95,500	11,500

A/ 1966 crops on lands brought under irrigation between the 1958 and the 1966 land use surveys.

B/ Estimated. Not included in total acreage.

C/ An additional 700 acres of new orchard and 100 of new vineyard were planted on lands previously irrigated to other crops.

beds of the Tulare, Buena Vista, and Kern Lakes which rim the edge of the area.

In 1960, about 22,000 people lived in the population centers near Taft to the south and Coalinga to the north. The remaining population of the study area was about 8,000. A 40-mile-long spur railroad line serves Taft from Bakersfield; another of about the same length serves Coalinga from Hanford. State Highway 33 bisects the area from north to south; State Highway 46, from east to west. When completed, the Westside Freeway will skirt the area's eastern edge for 115 miles. This, the most direct land route between Los Angeles and San Francisco, will provide rapid access to two of the world's major markets and export centers.

Water, Land, and Climate

The adaptability of crops to any irrigated area primarily depends upon the water, the land, and the climate.

Water

From 1956 to 1958, Department of Water Resources personnel mapped both irrigable and irrigated lands in the study area (Table 1). The maps showed that irrigated lands have been confined to sections of the study area where ground water has been available: Pleasant Valley to the north, the Wheeler Ridge-Maricopa Water Storage District to the south, and Devil's Den and Sunflower Valley in the center. Lowering water tables, the marginal quality of some of the ground water, and high pumping lifts have restricted the type of crops which can be grown profitably.

In 1966, a second mapping of irrigated lands (Table 2) indicated that only 11,500 additional acres had been brought under irrigation, a direct reflection of the limited water supplies. Although most of the newly irrigated lands -- like the lands of 1958 -- were planted to cotton, grain and field crops, citrus orchard plantings had increased many fold.

By 1968, newly completed segments of the California Aqueduct began deliveries into this area. The Aqueduct brings the water long desired to develop industry, recreation, and (primarily) agriculture. Although irrigated acreages have increased greatly since aqueduct deliveries began, both the total amount of water eventually imported and the capacity of the irrigators to pay for it will depend upon the successful adaptation of the crops to the land and climate.

Land

In the study area, most of the soils are deep and apparently fertile. The principal limitations to irrigated agriculture imposed by land are slope, soil salinity and soil boron. Data derived from reconnaissance studies of these limitations are discussed in the following sections. Any detailed plans

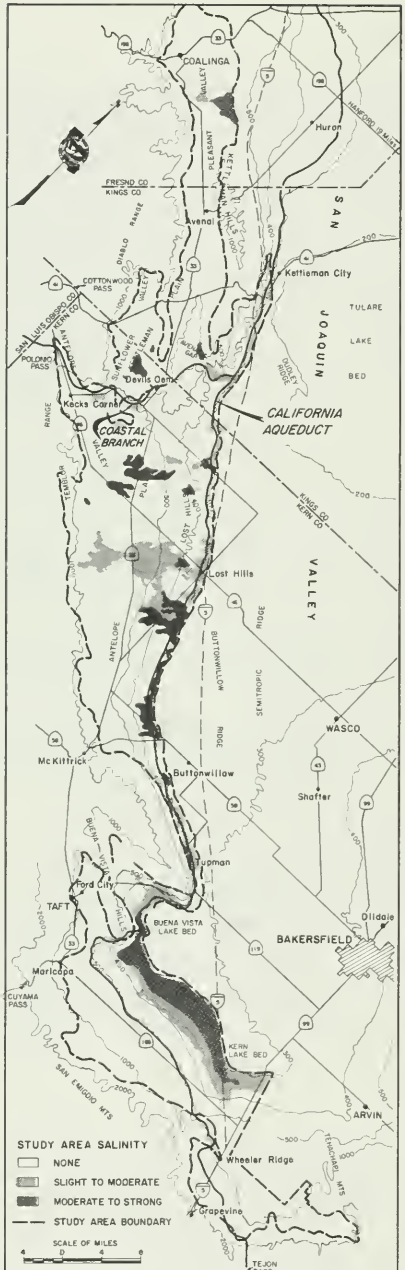


Figure 2 : SOIL SALINITY

for irrigated agriculture in the area would require additional data on each of these limitations as well as on limitations imposed by soil depth, texture and drainage.

Land Slope. The slope of the land affects its irrigability. Although the smooth, level, "V" lands of the study area (Table 3) possess obvious advantages for irrigated agriculture, the more steeply sloping "H" and "M" lands (about 20% of the study area) permit better air drainage for crops especially sensitive to climate. Crop adaptability on some of these lands will be limited by problems of soil texture, shallowness, and rockiness, but almost never by problems of soil salinity.

Soil Salinity. Soil salinity, a somewhat transient condition, increases or decreases with variations in natural conditions and soil management practices. In 1956-58, soil salinity affected about 82,500 acres of the study area (Table 4). Figure 2 depicts the general areas in which soil salinity is a problem.

Areas of moderate to strong salinity, often extending to considerable depths, lie most frequently along the edge of the San Joaquin Valley trough in the strip which traces the eastern low-elevation edge of the study area. They are most extensive along the western edges of the shallow lakes and marshes associated with Buena Vista and Kern lakebeds. These heavy salt accumulations resulted from the former high water tables near the valley trough and the flat terrain that entrapped flows from higher lands. The high water tables have dropped as developing agriculture in other parts of the valley removed their sources of water. The former overland flows are now largely controlled by the works of man. Today, artificial drainage often must be provided to leach such lands sufficiently for crops to

Table 3: IRRIGABLE LAND, BY LAND SLOPES

Slope Group*	Acres			
	County			
	Kern	Kings	Fresno	Total
V	408,400	47,600	46,000	502,000
H	58,400	28,500	8,100	95,000
M	12,200	12,800	2,600	27,600
Total	479,000	88,900	56,700	624,600

* V: Flat to very gentle slopes (up to 6 percent maximum.) Smooth to hummocky relief.

H: Gently sloping lands, generally ranging from over 6 percent to less than 20 percent. Moderately undulating or rolling relief.

M: Moderately sloping lands, up to 30 percent for large bodies. More complex relief of lesser slopes is included.

grow. Other, smaller areas of moderate to strong salinity lie at higher elevations and in the small valleys where local basins have trapped runoff, accumulating water and salts for many centuries. Removal of such accumulations requires extensive leaching and artificial drainage. Generally speaking, strong soil salinity presents serious crop adaptability hazards in only a small portion of the study area.

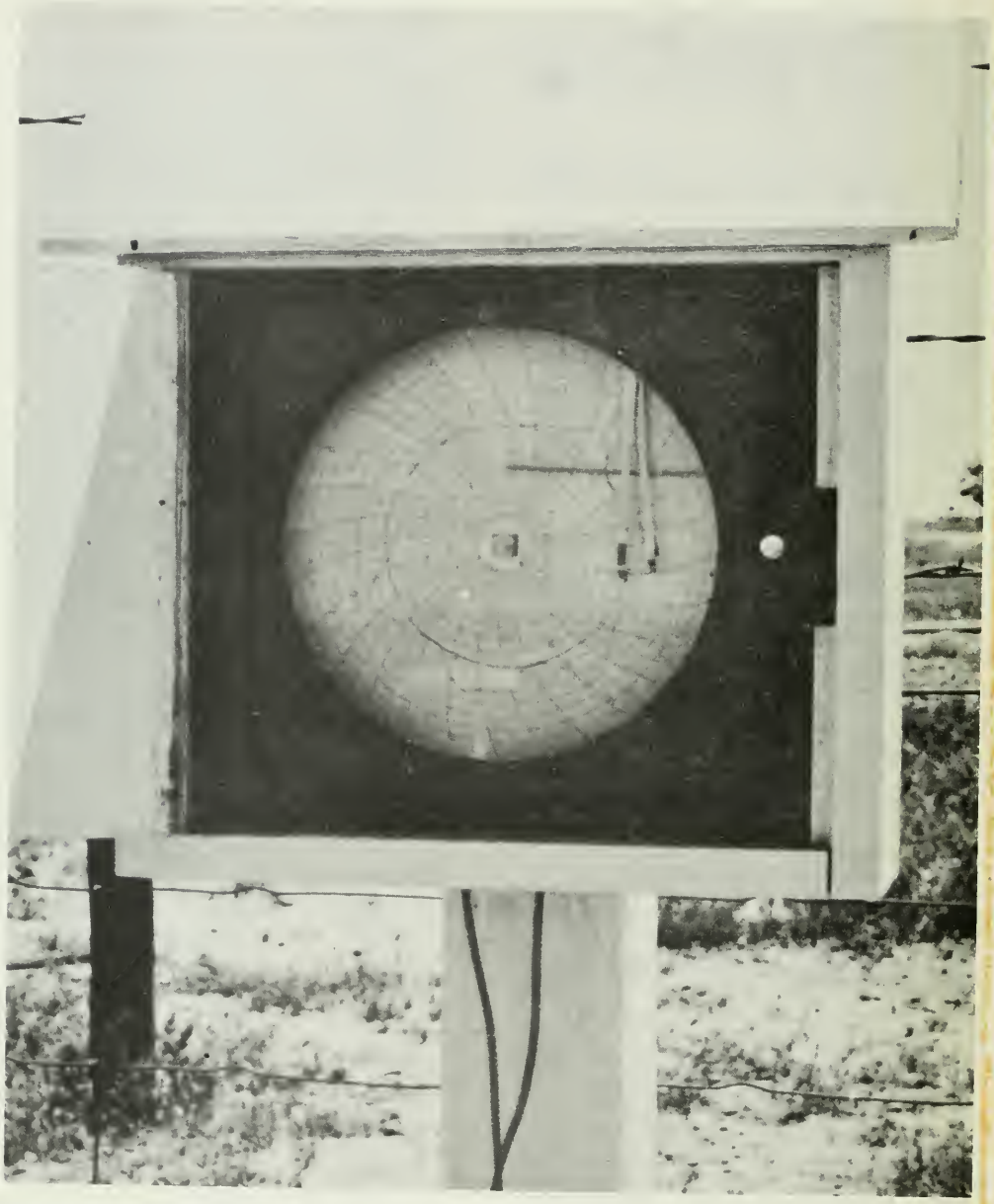
Areas of slight to moderate salinity frequently lie upslope from those of moderate to strong salinity and present less hazard to crops. The irrigation process itself, according to recent studies by the Agricultural Extension Service and the Research Scientists of the University of California, sufficiently leaches the soils in some of these areas to permit the successful production of salt tolerant field crops such as grain, cotton, and sorghum. Before costly irrigation development is attempted, however, more study is needed. In any event, the leaching required to reduce soil salinity generally is less than that required to reduce, by the same percentage of initial concentration, another danger to crop production: soil boron.

Soil Boron. Although they do not always do so, areas having salinity problems tend to coincide with those having boron problems. At the time of the 1956-58 land classification survey, the threat to crops posed by boron in the soils of the study area was not fully recognized. Later studies by the Kern County Agricultural Extension Service and by soil scientists at the University of California first stressed this threat. University experts have classified the effects upon crop production of four levels of boron concentration, as measured in soil saturation extracts. They find that boron is seldom a problem in soils where its concentration is less than one part per million. Sensitive crops such as deciduous and citrus trees suffer slight to moderate damage wherever the concentration is from one to five parts per million. Many crops are severely impaired wherever it is from five to ten parts per million. Virtually all crops suffer severely wherever it exceeds ten parts per million. Such classificiations are not rigid. Variations in soil characteris-

Table 4: SALINE SOILS, BY ELEVATION ZONES*

Elevation in feet	Saline Soils, in Acres	
	Moderate to Strong Salinity	Slight to Moderate Salinity
300-400	30,500	24,700
400-500	2,100	5,200
500-600	3,200	6,600
600-700	3,000	2,200
700-800	1,100	1,800
800-900	100	1,800
900-1000	--	200
1000 +	--	--
TOTALS	40,000	42,500

*1956-58 land use and land classification surveys



THERMOGRAPH PENS at Station E-40-070 record soil temperature continuously at depths of four inches and twenty inches on a weekly chart. (See page 35)

tics are such that a given boron concentration may be less of a problem in one soil than in another. For example, the ease with which leaching removes boron is greater in some soils than in others. Where boron in surface soils presents no problem for young or shallow-rooted plants, but boron in subsoils presents problems for maturing plants, copious irrigation water applied during the early stages of plant growth may reduce the subsoil concentration either by delution or by leaching so that normal growth continues to plant maturity. Areas where subsoil concentrations exceed five parts per million must be leached extensively before being planted to deep-rooted tree crops. In areas where slight to moderate boron occurs in the first foot, boron tolerant crops should be grown first, particularly prior to leaching. After leaching, shallow-rooted truck and field crops can be grown with minimal expectation of boron damage.

The planting of boron tolerant crops can reduce the threat of soil boron. Such crops are listed in "Handbook 60: Diagnosis and Improvement of Saline and Alkali Soils", by the U. S. Department of Agriculture. Supplements to this list, available at the Agricultural Extension Service offices of Kern, Kings, and Fresno Counties, have been prepared jointly by the University of California Research and Agricultural Extension Service personnel. Nevertheless, landowners planting boron sensitive crops, particularly trees and vines, should check specifically for soil boron before planting. To help these landowners, Figures 3 and 4 map the general areas of potentially slight, moderate, and serious soil boron problems. In the surface foot of soil (Figure 3), about 20 percent of the study area land appears to have slight to moderate boron problems. Boron poses a more common threat to the subsoil (Figure 4). About 35 percent of the subsoil in the area has slight to moderate boron problems; an additional 20 percent has moderate to serious and serious problems. Boron

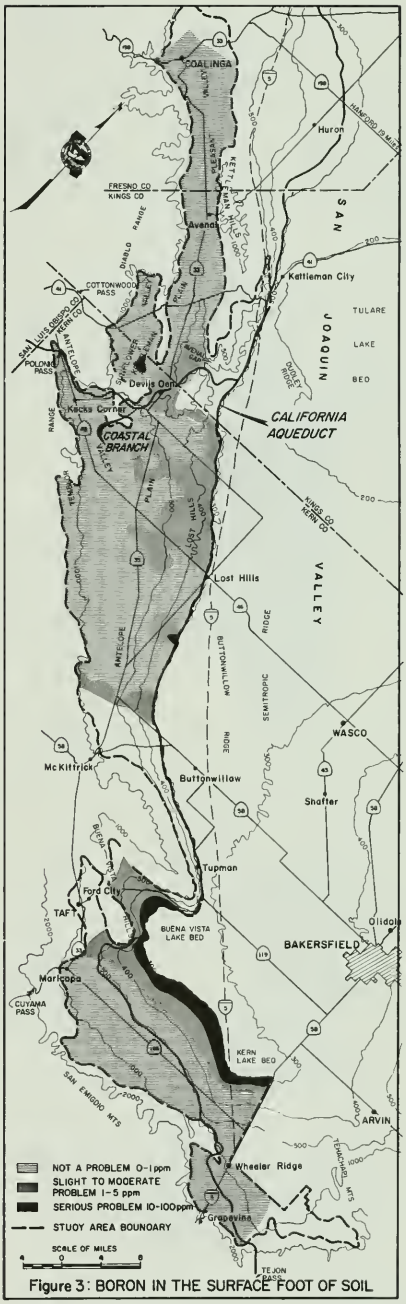


Figure 3: BORON IN THE SURFACE FOOT OF SOIL

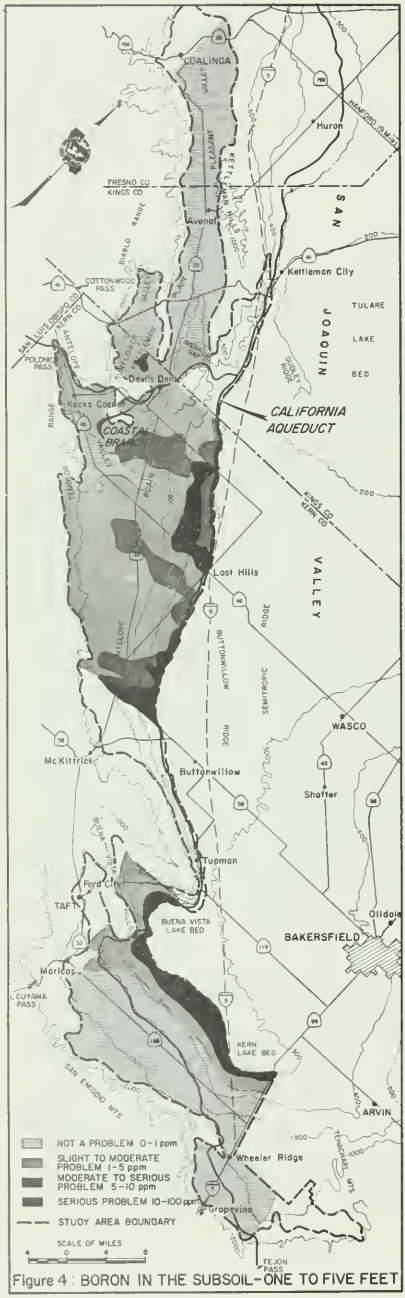


Figure 4: BORON IN THE SUBSOIL-ONE TO FIVE FEET

concentrations usually increase with depth. The more serious problems occur in small entrapments and along the lower slopes of the study area. Many small areas of high concentration are associated with disposal areas for oil field waste waters.

Figures 3 and 4 present broadly generalized data. Less seriously affected areas may lie within mapped areas of serious boron problems; more seriously affected areas may lie within mapped areas of no problems or of slight to moderate problems. To develop these maps, 275 soil profiles were examined for soil boron. Almost half of these were provided by the Department of Soils and Plant Nutrition at the University in Berkeley through the cooperation of Dr. Rodney Arkley. Although such sampling was minimal, the sampled profiles were located on drainage entrapment areas, alluvial fans from particular streams, and on other natural physiographic bodies so as to indicate the general degree of problems to be expected. For each profile, soil samples were taken from the surface foot alone and also from the second and third foot combined, and from the fourth and fifth foot combined.

Climate

Although they studied available water data and gathered some soils data, investigators pursuing the West Side Crop Adaptability Study focused their major efforts upon the collection of climatic data because such data are time-dependent and must be collected for several years before they prove helpful. To gather climatic data, they installed a network of 82 climatological stations on eight lines, called transects, lettered from A through H (Figure 5). Each of the transects represented areas having a significant potential for irrigated agriculture. Each individual station represented its surroundings, and was free from localized climatic influ-

ences created by obstructions or topographic features. The transects passed through areas easily accessible yet subject to minimum vandalism. Their spacing permitted study of climatic characteristics along the California Aqueduct from Wheeler Ridge north to Pleasant Valley and from the trough of the San Joaquin Valley westward and upward to the western edge of irrigable land.

Transect A was located south of Wheeler Ridge; Transect B, east of Maricopa; and Transect C, west of Buttonwillow. This latter transect followed Lokern Road.

Transect D anchored at the Lost Hills Fire Station (D-05-028) of the Kern County Fire Department. Prior to this study, the temperature record at this station was fragmentary. Transect D also included the former U. S. Weather Bureau Middlewater Pumping Station (D-40-080), a key station for correlating all climate stations in the study. Discontinued in February 1962, the station was reestablished in December 1962 as the first station in the network. Thus, except for a relatively warm nine-month period in 1962, Station D-40-080 had recorded 51 years of daily maximum-minimum temperatures. The continuation of the historic record from this station and its correlation with long-term detailed records from remote stations is vital to any future correlation analysis of climatic data collected in this study.

Transect E extended through Antelope Plain and then along State Highway 46 to a point near Polonio Pass. Transect F passed from the floor of the San Joaquin Valley into Kettleman Hills and then followed State Highway 41 down onto Kettleman Plain, up over the Pyramid Hills, down into Sunflower Valley and up into the Diablo Range. Transect G paralleled State Highway 33 on Kettleman Plain and extended northward from the Fresno County line across Pleasant Valley to a point east of Coalinga.

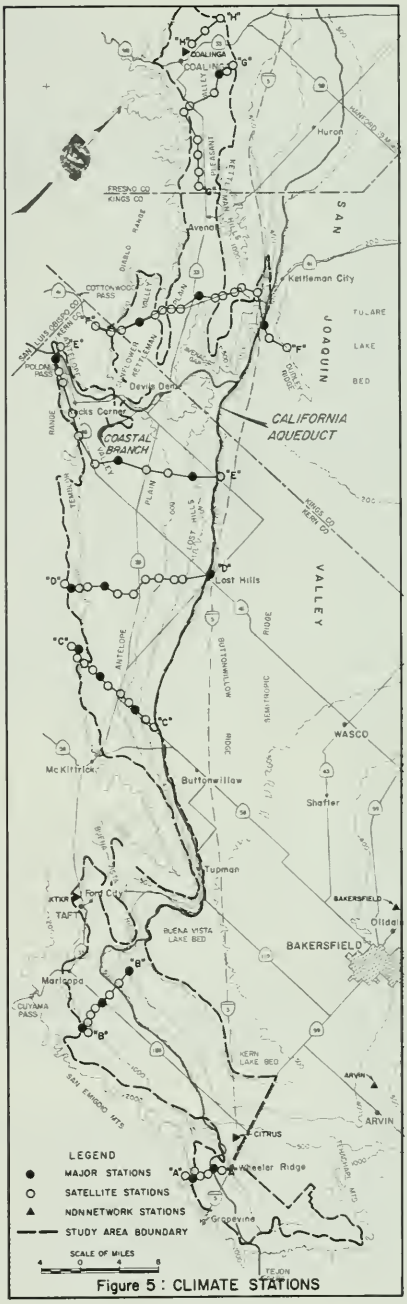


Figure 5 : CLIMATE STATIONS

Transect H, a supplement to Transect G, was located north of Coalinga on the west side of Pleasant Valley.

Stations in each transect were placed at 100-foot contour intervals or closer if the contours lay more than two miles apart. The climate station designation consisted of the trasect letter followed by a two-digit transect station number and then a three-digit number which, when a zero was added, indicated the station elevation. Each transect (except H) had from one to three major stations and from five to 14 satellite stations (Table 5). The 18 major stations each occupied a 25-foot square fenced area and contained instruments to record continuously air temperature and relative humidity. Nonrecording maximum and minimum indicating thermometers also were included. In addition, instruments to record wind velocity and direction were placed in ten major stations. Soil temperature data were recorded at five, and cloud condition data at four stations. Evaporation data were obtained at seven, precipitation at 18, and 20-inch soil temperature data at 17 major stations with non recording instruments.

The 64 satellite stations, placed to indicate significant air temperature changes between major stations, for the most part, contained only maximum-minimum indicating thermometers.

Climatic data obtained from the major and the satellite stations were supplemented by data obtained from a few climatological stations maintained by private corporations and public agencies.

All the climatological stations were serviced once each week. At each station, on a weekly field sheet, the maximum, minimum, and present air temperatures were recorded along with the time at which they were read. At major stations, the precipitation, relative humidity, cloud conditions,

Table 5: NETWORK STATIONS

Station Number	Location of Station				
	Township, Range, Section and 40-Acre Tract	Base and Meridian	Latitude ° ' "	Longitude ° ' "	Elevation (in feet)
A-20-109	T11N/R19W-31L	SB	34 59 17	118 56 56	1,090
A-25-122	T10N/R20W-1H	SB	34 58 39	118 57 23	1,220
A-30-130	T10N/R20W-1Q	SB	34 58 22	118 57 34	1,300
A-35-140	T10N/R20W-12C	SB	34 58 01	118 57 55	1,400
A-40-150	T10N/R20W-11J	SB	34 57 42	118 58 23	1,500
A-45-158	T10N/R20W-11P	SB	34 57 27	118 58 44	1,580
A-50-170	T10N/R20W-14E	SB	34 57 01	118 59 09	1,700
B-20-040	T32S/R25E-29K	MD	35 06 42	119 18 44	400
B-25-050	T12N/R23W-35D	SB	35 05 20	119 18 45	500
B-30-060	T11N/R23W-2E	SB	35 04 11	119 18 44	600
B-35-070	T11N/R23W-11M	SB	35 03 13	119 18 44	700
B-40-080	T11N/R23W-14E	SB	35 02 23	119 18 43	800
B-45-090	T11N/R23W-23E	SB	35 01 46	119 18 43	900
B-50-100	T11N/R23W-23P	SB	35 01 10	119 18 22	1,000
B-55-110	T11N/R23W-25G	SB	35 00 40	119 17 55	1,100
B-60-120	T11N/R23W-29M	SB	35 00 19	119 17 33	1,200
C-10-030	T29S/R22E-13Q	MD	35 23 55	119 33 45	300
C-15-035	T29S/R22E-14M	MD	35 23 53	119 35 10	350
C-20-040	T29S/R22E-16Q	MD	35 23 53	119 36 52	400
C-25-045	T29S/R22E-17N	MD	35 23 53	119 38 23	450
C-30-050	T29S/R22E-18M	MD	35 23 53	119 39 24	500
C-35-060	T29S/R21E-14Q	MD	35 23 53	119 40 56	600
C-40-070	T29S/R21E-15P	MD	35 23 53	119 42 16	700
C-45-080	T29S/R21E-16P	MD	35 23 53	119 43 21	800
C-50-090	T29S/R21E-17Q	MD	35 23 52	119 44 22	900
C-55-100	T29S/R21E-18Q	MD	35 23 53	119 45 16	1,000
C-60-108	T29S/R20E-13H	MD	35 24 06	119 46 06	1,080
C-65-118	T29S/R20E-13C	MD	35 24 20	119 46 35	1,180
D-05-028	T26S/R21E-35M	MD	35 36 58	119 41 17	280
D-10-040	T27S/R21E-9E	MD	35 35 45	119 43 17	400
D-15-045	T27S/R21E-17B	MD	35 35 02	119 43 57	450
D-20-050	T27S/R21E-19K	MD	35 33 47	119 45 04	500
D-25-055	T27S/R20E-25K	MD	35 32 53	119 45 55	550
D-30-060	T28S/R20E-1B	MD	35 31 37	119 46 00	600
D-35-070	T28S/R20E-2P	MD	35 31 03	119 47 13	700
D-40-080	T28S/R20E-10M	MD	35 30 05	119 48 37	800
D-45-090	T28S/R20E-16	MD	35 29 12	119 49 34	900
D-50-100	T28S/R20E-20K	MD	35 28 07	119 50 12	1,000
D-55-110	T28S/R20E-29E	MD	35 27 53	119 50 47	1,100
D-60-120	T28S/R20E-30K	MD	35 27 39	119 51 18	1,200
E-20-030	T25S/R20E-22R	MD	35 43 54	119 47 45	300
E-25-040	T25S/R20E-33P	MD	35 42 33	119 49 38	400
E-30-050	T26S/R19E-1R	MD	35 41 29	119 52 12	500
E-35-060	T26S/R19E-15A	MD	35 40 17	119 54 15	600
E-40-070	T26S/R19E-19M	MD	35 39 08	119 57 30	700
E-45-080	T26S/R18E-36M	MD	35 37 18	119 58 42	800
E-50-072	T26S/R18E-27D	MD	35 38 34	120 01 21	720
E-55-080	T26S/R18E-17N	MD	35 39 42	120 03 42	800
E-60-090	T26S/R17E-11C	MD	35 41 04	120 06 35	900
E-65-100	T26S/R17E-3L	MD	35 41 37	120 07 43	1,000
E-70-110	T25S/R17E-33M	MD	35 42 08	120 08 49	1,100
E-75-120	T25S/R17E-32F	MD	35 42 39	120 09 48	1,200
F-05-021	T23S/R19E-12R	MD	35 56 04	119 51 39	210
F-10-023	T23S/R19E-15A	MD	35 56 04	119 54 22	230
F-15-028	T23S/R19E-9K	MD	35 56 22	119 55 21	280
F-20-050	T22S/R18E-36J	MD	35 58 11	119 58 08	500
F-25-070	T23S/R18E-2L	MD	35 57 24	119 59 56	700
F-30-090	T23S/R18E-10A	MD	35 56 53	120 00 13	900
F-40-070	T23S/R18E-15D	MD	35 56 02	120 01 05	700
F-45-060	T23S/R18E-16J	MD	35 55 34	120 01 21	600
F-50-050	T23S/R18E-28D	MD	35 54 22	120 02 09	500
F-55-060	T23S/R18E-32M	MD	35 52 47	120 03 12	600
F-60-070	T24S/R18E-6L	MD	35 51 51	120 04 17	700
F-65-090	T24S/R17E-12G	MD	35 51 21	120 05 18	900
F-70-080	T24S/R17E-10Q	MD	35 50 52	120 05 28	800
F-75-070	T24S/R17E-23R	MD	35 49 04	120 05 47	700
F-80-080	T24S/R17E-35M	MD	35 47 43	120 06 58	800
F-85-090	T25S/R17E-2D	MD	35 47 03	120 07 02	900
F-95-110	T25S/R17E-4M	MD	35 46 39	120 08 06	1,100
G-05-080	T20S/R16E-18M	MD	36 10 52	120 16 53	800
G-10-070	T20S/R16E-19E	MD	36 10 34	120 16 55	700
G-15-060	T20S/R15E-25A	MD	36 09 56	120 16 56	600
G-20-060*	T20S/R16E-31Q	MD	36 08 17	120 16 17	600
G-25-070	T21S/R15E-13J	MD	36 05 57	120 17 05	700
G-30-080	T21S/R15E-13M	MD	36 05 38	120 17 05	800
G-35-065	T21S/R16E-27E	MD	36 04 32	120 13 49	650
G-40-070	T21S/R16E-35F	MD	36 03 38	120 12 42	700
G-45-075	T22S/R16E-1K	MD	36 02 27	120 11 11	750
G-50-077	T22S/R17E-7R	MD	36 01 28	120 09 59	770
H-05-100*	T20S/R15E-4D	MD	36 13 21	120 21 15	1,000
H-10-080*	T20S/R15E-17A	MD	36 11 32	120 21 19	800
H-15-070*	T20S/R15E-20Q	MD	36 09 54	120 21 45	700

* Cooperator Station

Table 5: NETWORK STATIONS (continued)

Dates of Station Installation		Dates of Installation of Instrumentation												Station Number
		Air Temperature	Air Temp. & Rel. Humid.	Wind			Cloud Conditions	Soil Temperature		Precipitation		Evaporation		
Major	Satellite	Maximum-Minimum Thermometer	Hygro-thermograph	Wind Vane	Anemometer	Recorder for Both	Pyrheliograph	Thermometer	Thermograph	Rain Gauge	Recording Rain Gauge	Atmometer	Evaporation Pan and Supply Tank	
	2/14/63	2/14/63												A-20-109
2/14/63		2/14/63	2/22/63	1/07/65	11/27/63	10/19/64		9/10/63		2/20/63	9/19/63	3/30/63		A-25-122
	2/14/63	2/14/63												A-30-130
	2/14/63	2/14/63												A-35-140
	2/14/63	2/14/63												A-40-150
2/14/63		2/14/63	2/22/63					12/23/63		2/20/63				A-45-158
	2/14/63	2/14/63												A-50-170
4/16/63		4/16/63	4/16/63					9/10/63		4/16/63				B-20-040
	4/16/63	4/16/63												B-25-050
	4/09/63	4/09/63												B-30-060
3/31/63		3/31/63	4/16/63	11/27/63	11/27/63	8/19/64	8/27/63	10/01/63	9/07/63	4/09/63		4/09/63		B-35-070
	4/09/63	4/09/63												B-40-080
	4/09/63	4/09/63												B-45-090
	4/09/63	4/09/63												B-50-100
4/16/63		4/16/63	4/16/63					9/10/63		4/16/63				B-55-110
	4/09/63	4/09/63												B-60-120
	2/25/63	2/25/63												C-10-030
	2/25/63	2/25/63												C-15-035
2/25/63		2/25/63	2/25/63					9/10/63		3/04/63				C-20-040
	2/25/63	2/25/63												C-25-045
	2/25/63	2/25/63												C-30-050
	2/25/63	2/25/63												C-35-060
2/25/63		2/25/63	2/25/63	11/12/63	11/12/63	8/19/64		10/01/63	9/07/63	3/04/63		3/30/63		C-40-070
	2/25/63	2/25/63												C-45-080
	2/25/63	2/25/63												C-50-090
	2/25/63	2/25/63												C-55-100
2/25/63		2/25/63	2/25/63				8/27/63	9/10/63		3/04/63				C-60-108
	2/25/63	2/25/63												C-65-118
4/23/63		4/23/63	4/23/63								4/23/63			D-05-028
	2/26/63	2/26/63												D-10-040
	2/26/63	2/26/63												D-15-045
	2/26/63	2/26/63												D-20-050
	3/04/63	3/04/63												D-25-055
	2/26/63	2/26/63												D-30-060
	3/04/63	3/04/63												D-35-070
12/11/62		12/11/62	12/11/62	12/04/63	12/04/63	2/14/64	8/27/63	10/08/63	3/10/64	3/04/63		3/30/63	12/29/64	D-40-080
	3/04/63	3/04/63												D-45-090
	3/04/63	3/04/63												D-50-100
3/04/63		3/04/63	3/11/63					10/01/63		3/04/63				D-55-110
	3/04/63	3/04/63												D-60-120
	8/20/63	8/20/63												E-20-030
8/20/63		8/20/63	8/20/63				8/27/63	10/09/63		8/20/63				E-25-040
	8/20/63	8/20/63												E-30-050
	8/20/63	8/20/63												E-35-060
8/20/63		8/20/63	8/20/63	12/05/63	12/05/63	8/21/64		10/23/63	9/07/63	8/20/63		8/27/63		E-40-070
	8/20/63	8/20/63												E-45-080
	1/06/64	1/06/64												E-50-072
	8/20/63	8/20/63												E-55-080
	8/20/63	8/20/63												E-60-090
	8/20/63	8/20/63												E-65-100
8/20/63		8/20/63	8/20/63	1/06/65	12/06/63	10/18/64		10/23/63		8/20/63				E-70-110
	8/20/63	8/20/63												E-75-120
	12/15/66	12/15/66												F-05-021
	12/19/66	12/19/66												F-10-023
7/26/67		7/26/67	7/26/67	7/26/67	7/26/67	7/26/67		7/26/67		7/26/67				F-15-028
	12/15/66	12/15/66												F-20-050
	12/15/66	12/15/66												F-25-070
	12/15/66	12/15/66												F-30-090
	5/03/63	5/03/63												F-40-070
	5/03/63	5/03/63												F-45-060
5/03/63		5/03/63	5/03/63	8/21/64	12/19/63	8/21/64		10/23/63		5/03/63				F-50-050
	5/03/63	5/03/63												F-55-060
	5/03/63	5/03/63												F-60-070
	5/03/63	5/03/63												F-65-090
	5/03/63	5/03/63												F-70-080
5/03/63		5/03/63	5/03/63	1/06/65	12/06/63	10/18/64		10/09/63		5/03/63		5/14/63		F-75-070
	5/03/63	3/03/63												F-80-080
	5/03/63	5/03/63												F-85-090
	12/14/66	12/14/66												F-95-110
	7/10/63	7/10/63												G-05-080
	7/10/63	7/10/63												G-10-070
7/10/63		7/10/63	7/10/63	1/06/65	12/19/63	10/18/64		10/09/63	9/11/63	7/10/63		7/17/63	6/03/65	G-15-060
	9/04/63	9/11/63								9/04/63				G-20-060
	7/10/63	7/10/63												G-25-070
	7/10/63	7/10/63												G-30-080
	1/02/64	1/02/64												G-35-065
	1/02/64	1/02/64												G-40-070
	1/02/64	1/02/64												G-45-075
	1/02/64	1/02/64												G-50-077
	1/03/64	1/03/64								1/03/64				H-05-100
	1/04/64	1/04/64								1/04/64				H-10-080
	1/05/64	1/05/64												H-15-070

Table 6: AIR AND SOIL TEMPERATURES, HUMIDITY, WIND, CLOUDS: AVERAGE DATA, 1964 THROUGH 1967

STATION	AIR TEMPERATURE																									
	RECORD IN DEGREES F				NO. HRS. TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
	HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
	MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
A-25-122	107	74	23	51	0	0	1	1	9	4	96	24	1539	135	2343	169	6371	335	4737	271	544	77	45	14	0	0
A-45-158	106	72	25	54	0	0	0	0	4	1	37	9	1414	118	2270	155	6409	321	4710	261	423	64	20	8	0	0
B-20-040	112	76	21	49	0	0	4	1	41	11	180	35	1517	137	2345	186	6301	337	4594	282	757	101	154	31	1	1
B-35-070	109	76	24	53	0	0	0	0	8	3	71	17	1313	115	2137	156	6501	336	4864	277	682	92	114	25	0	0
B-55-110	108	74	26	54	0	0	0	0	5	1	(25)	(7)	(1304)	(117)	(2210)	(151)	(6487)	(336)	(4885)	(270)	(702)	(92)	(104)	(26)	0	0
C-20-040	111	77	24	50	0	0	1	1	(51)	(11)	(216)	(40)	(1590)	(145)	(2441)	(187)	(6186)	(340)	(4528)	(281)	(799)	(103)	(195)	(40)	1	1
C-40-070	111	75	22	51	0	0	1	1	17	6	128	22	1470	130	2285	168	6385	336	4673	273	722	97	151	34	1	1
C-60-108	108	74	22	52	0	0	1	1	4	2	69	15	1538	130	2439	169	6281	332	4551	261	587	86	85	22	0	0
D-05-028	113	77	24	52	0	0	0	0	7	3	64	18	1239	114	2087	162	6554	340	4784	281	804	99	233	46	3	2
D-40-080	108	75	25	52	0	0	0	0	12	3	102	19	1435	129	2336	165	6394	340	4632	267	644	90	127	30	0	0
D-55-110	107	74	22	52	0	0	1	1	11	4	90	17	1514	133	2438	170	6238	329	4537	262	566	84	99	23	0	0
E-25-040	112	78	19	51	2	1	6	2	41	13	167	36	1513	137	2318	180	6302	333	4575	274	765	100	212	45	2	2
E-40-070	111	76	19	49	0	0	2	1	41	9	194	32	1564	140	2492	187	6235	336	4378	272	692	95	162	37	1	1
E-70-110	108	75	20	50	0	0	0	0	7	3	64	16	1373	128	2357	183	6041	329	4078	260	570	84	114	28	0	0
F-50-050	112	77	20	46	1	1	22	8	136	27	333	55	1732	171	2627	221	5945	336	4159	258	753	99	181	38	1	1
F-75-070	110	76	20	49	1	1	5	3	74	13	209	36	1572	144	2413	189	6261	332	4385	263	642	82	150	32	0	0
O-15-060	109	75	20	45	1	1	18	7	128	27	332	54	1791	176	2754	230	5905	336	4048	266	643	87	120	26	0	0
Bakersfield*	111	77	25	53	0	0	0	0		2		15		122		163		346		293		102		32		1
Fresno*	110	76	21	48	0	0		1		9		31		150		203		341		285		108		36		1

STATION	RELATIVE HUMIDITY						WIND								CLOUD CONDITIONS IN DAYS				SOIL TEMPERATURE IN DEGREES F							
	NO. HRS. R.H. WAS IN INDICATED RANGE - NO. DAYS ON WHICH THIS R.H. OCCURRED						TOTAL MILES OF WIND	FASTEST HOUR		NO. HRS. WIND SPEED WAS									AT 4 INCHES				AT 20 INCHES			
	≤15%		≤30%		≥70%			SPEED IN MPH	DIR	≥15 MPH		≥30 MPH			CLEAR	PARTLY CLOUDY	MOSTLY CLOUDY	OVERCAST	HIGH		LOW		HIGH		LOW	
	HRS	DAYS	HRS	DAYS	HRS	DAYS				HRS	DIR	HRS	DIR						MAX	AV	MIN	AV	MAX	AV	MIN	AV
A-25-122	202	33	2392	183	2268	178	42,697	30	SSE	162	SE	1	S													
A-45-158	219	34	2425	169	1923	158																				
B-20-040	237	46	1864	184	2360	197																				
B-35-070	388	61	2646	195	2430	185	34,838	27	SSW	61	WSW	2	SW		166	148	37	4	(115)	(81)	(38)	(69)	101	(75)	47	(74)
B-55-110	(322)	(45)	(2641)	(186)	(2074)	(168)																				
C-20-040	(348)	(67)	(2142)	(163)	(2215)	(170)																				
C-40-070	334	57	2409	198	2576	196	38,698	32	WNW	99	WSW	3	SW						(113)	(78)	(36)	(66)	(95)	(74)	(48)	(72)
C-60-108	338	53	2719	188	2278	172									161	156	40	5								
D-05-028	396	59	2479	186	2179	159																				
D-40-080	398	62	2791	188	2148	157	40,934	30	SW	158	WSW	2	SW		175	149	37	4	(113)	(77)	(41)	(68)	(96)	(7.)	(46)	(68)
D-55-110	364	62	2665	190	2344	171																				
E-25-040	534	81	2542	197	2540	188									168	137	42	7								
E-40-070	509	96	2471	199	2658	202	49,062	28	WNW	354	W	0							106	(74)	(36)	(66)	(95)	(70)	(46)	(63)
E-70-110	580	88	2155	191	2846	227	67,119	26	W	754	WNW	0														
F-50-050	647	93	2471	203	2696	206	38,290	29	WSW	209	WNW	1	N													
F-75-070	490	71	2758	197	2479	179	41,727	33	SW	323	W	3	SSW													
O-15-060	570	86	2377	210	2718	220	40,357	24	WNW	204	N	0							(112)	(80)	(36)	(68)	(92)		(48)	

* United States Weather Bureau.

NOTE: With the exception of maximum and minimum temperatures, all figures represent the average of the "annual" totals for the years 1964, 1965, 1966, and 1967. Maximum and minimum temperatures are the recorded extreme temperatures. Figures in parentheses are averages of less than 4 years because of missing data. When computing the averages, a portion of a day or hour was rounded to the next highest day or hour. Major station F-15-028 omitted because only 5 months data were collected in summary period.

20-inch soil temperature, and wind speed, direction and total miles of wind "passing" since the last reading were recorded on the field sheet together with the air temperature. Atmometer data and pan evaporation data were recorded on separate field sheets. Each recorder chart, upon both installation and removal was identified by station number, date, time, and name of person servicing the station. Data pertinent to the instrument were written on the recorder chart. For example, the maximum, minimum, and present temperatures were recorded on the hygrothermograph chart as well as on the field sheet.

Technical advisors repeatedly emphasized the need for accurate and complete data so as to meet not only the immediate but also the long-range objectives of the study. Instruments that sense the climatic factors accurately and record their time of occurrence on charts provide the most complete data. However, the cost, specialized requirements and field maintenance problems associated with continuously recording instruments limited both the number and kind of these instruments used. Nonrecording instruments, which are less expensive and also less difficult to operate and maintain, were used to indicate information needed in less complete detail.

Table 6 presents the four-year average annual values of recorded data for the study. These data permit broad comparison of several important climate characteristics at 17 of the major stations and at Bakersfield and Fresno U. S. Weather Bureau stations.

Although this report presents monthly and annual summaries of climatic data, copies of weekly summaries may be found at Department of Water Resources offices in Fresno and Bakersfield, at the University of California at Davis, Riverside and Los Angeles, and at County Agricultural Extension Service and Soil Conservation Service offices, as well as water agency offices, in Kings, Kern, and Fresno Counties. The weekly summaries will assist growers in estimating specific planting and harvesting dates for specific crops.

Only a more intensive network of climatological stations can isolate small areas of extreme climate hazards. To locate such areas and to determine their size and the magnitude of the hazard, individual landowners should obtain basic climatic data throughout their entire land holdings. The climatological stations used in this study have provided a minimum amount of measurement within a maximum area and therefore present only broad rather than detailed expressions of the climate.*

Precipitation. Precipitation readings were taken daily at three satellite stations and at three nonnetwork stations. They were taken weekly at 17 of the major network stations. U. S. Forestry-type nonrecording rain gauges used at the major stations were installed at a height of 40 inches. In addition, recording rain gauges were installed at Stations A-25-122 and D-05-028.

---

*Analysis of climatic factors was prepared by Dewayne E. Gilbert, Extension Bioclimatologist, Agricultural Extension Service, University of California, Davis. Discussions of the influence of the various climate factors upon specific crops were prepared by the indicated specialists from the following departments and campuses of the University: Dillon S. Brown, Pomology, Davis - Deciduous Fruits and Nuts; James A. Cook, Viticulture and Enology, Davis - Grapes; Oscar Lorenz, Vegetable Crops, Davis - Vegetable Crops; R. Merton Love, Agronomy, Davis - Agronomic Crops; Robert G. Platt, Agricultural Extension Service, Riverside - Citrus; Walter Reuther, Horticultural Science, Riverside - Citrus

Table 7: PRECIPITATION, in inches

YEAR	MONTH	A-25-152	A-45-156	B-20-040	B-35-070	B-55-110	C-20-040	C-40-070	C-60-108	D-05-088	D-40-080	D-55-110	E-25-040	E-40-070	E-70-110	F-15-088	F-50-090	F-75-070	G-15-060	G-20-060	H-10-080	H-09-100	Bakersfield USWB	Fresno USWB	Taft Sunset Ranch
		STATION																							
1963	JAN.																						0.12	2.16	0.01
	FEB.																						1.54	2.01	0.86
	MAR	2.74	3.11	*			0.52	0.42	0.93		0.35	1.06											1.25	2.10	0.99
	APR	1.73	1.79	0.70	1.15	0.57	0.57	0.48	0.88	1.01	0.46	0.75											0.85	3.66	0.83
	MAY	0.48	0.51	0.62	0.80	1.10	0.63	0.56	0.52	0.85	0.54	0.56					0.90	0.46					0.26	0.39	1.14
	JUN	0.26	0.31	0.06	0.03	0.00	0.44	0.34	0.53	0.48	0.26	0.37					0.05	0.00					0.28	0.03	0.65
	JUL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00				0.00	0.00	0.00
	AUG	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.06	0.00	0.00					0.35	0.15	0.02				T	0.01	T
	SEPT	1.21	1.21	0.37	0.70	0.91	0.30	0.20	0.29	0.17	0.37	0.35	0.17	0.29	0.34		0.21	0.35	0.05	0.07			0.83	0.15	0.56
	OCT	1.57	1.68	1.24	1.32	1.39	0.97	0.91	0.59	1.26	0.89	0.72	0.89	1.07	0.93		0.85	0.67	1.16	0.99			0.73	0.95	0.86
	NOV.	2.07	3.69	1.39	1.70	2.35	0.66	0.75	0.70	1.05	0.72	1.19	0.80	0.91	0.94		0.73	0.87	1.49	1.77			0.94	2.54	1.54
	DEC.	0.15	0.41	0.05	0.16	0.25	0.02	0.06	0.16	0.06	0.09	0.16	0.10	0.11	0.14		0.08	0.07	0.11	0.04			0.08	0.27	0.08
	ANNUAL																						6.88	14.27	7.52
1964	JAN.	0.55	0.78	0.41	0.41	0.72	0.57	0.81	1.13	0.31	0.70	1.16	0.69	0.99	1.47		1.04	1.29	1.01	1.14	1.13		0.27	0.66	0.68
	FEB.	0.79	1.23	0.05	0.01	0.12	0.06	0.04	0.10	0.13	0.13	0.13	0.11	0.15	0.08		0.16	0.05	0.02	0.08	0.00		0.41	T	0.09
	MAR	0.60	0.63	0.09	0.15	0.27	0.31	0.23	0.76	0.56	0.37	0.66	0.53	0.35	0.62		0.63	0.46	0.91	0.69	0.47	0.71	0.57	1.27	0.37
	APR	0.55	0.61	0.18	0.22	0.68	0.11	0.12	0.09	0.25	0.03	0.11	0.45	0.24	0.28		0.41	0.49	0.21	0.17	0.30	0.30	0.56	0.50	0.20
	MAY	0.50	0.63	0.15	0.37	0.42	0.07	0.07	0.09	0.02	0.32	0.08	0.00	0.43	0.46		0.06	0.04	0.03	0.01	0.02	0.00	0.20	0.35	0.07
	JUN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.06	0.00
	JUL	T	T	0.00	T	T	0.00	T	T	0.00	0.04	T	0.00	0.03	0.00		0.00	0.00	0.00	0.00	0.00	0.00	T	T	T
	AUG	0.50	0.54	0.16	0.20	0.19	0.18	0.33	0.05	0.17	0.50	0.07	0.24	0.28	0.20		0.29	0.26	0.16	0.13			0.17	0.25	0.03
	SEPT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.03			T	0.00	0.33
	OCT	0.82	0.80	0.80	0.93	0.91	0.74	0.76	0.50	0.80	0.66	0.63	0.45	0.93	0.53		1.08	0.98	0.97	1.32	0.88	0.86	0.67	1.23	0.83
	NOV	0.41	0.58	0.42	0.35	0.23	0.25	0.31	0.53	0.71	0.29	0.61	0.41	0.50	1.22		0.64	0.79	0.65	0.50	0.69	0.78	0.46	1.49	0.69
	DEC.	1.29	1.01	0.53	0.66	0.67	0.43	0.52	0.52	0.57	0.26	0.50	0.50	0.34	0.93		0.75	0.72	0.67	0.70	0.42	0.61	0.70	2.63	0.54
	ANNUAL	6.01	6.81	2.79	3.30	4.21	2.72	3.19	3.77	2.25	3.30	3.95	3.38	4.24	5.79		5.06	5.10	4.63	4.78			4.02	8.44	3.83
1965	JAN.	1.48	1.46	0.97	1.19	1.55	0.81	0.63	0.67	0.40	1.12	0.83	1.17	1.23	1.33		1.04	1.23	0.58	0.28	0.19	0.32	0.74	1.05	0.79
	FEB.	1.63	1.06	0.37	0.59	0.93	0.40	0.37	0.38	0.45	0.58	0.51	0.31	0.40	0.29		0.21	0.43	0.15	0.16	0.09	0.17	0.17	0.43	0.30
	MAR	0.71	0.86	0.60	0.84	0.87	0.92	1.18	0.80	1.41	1.02	1.00	1.00	0.92	1.23		0.53	0.29	0.46	0.15	0.88	1.18	1.17	2.38	0.40
	APR	2.56	2.90	1.48	1.51	1.91	0.85	0.92	0.82	1.52	0.78	0.96	1.22	1.10	1.48		2.63	2.18	2.10	1.58	1.32	1.85	1.65	1.74	1.85
	MAY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.02	T	T
	JUN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	T	T	0.00
	JUL	0.00	0.13	0.00	0.00	0.00	0.54	0.63	0.46	0.80	0.50*	0.50	0.50	0.44	0.44		0.30	0.46	0.14	0.10	0.04	0.00	0.30	T	0.05
	AUG	1.25	1.55	0.17	0.04	0.12	0.00	0.26	0.29	0.00	0.98	0.73	0.00	0.00	0.00		0.00	0.00	0.00	T	0.00	0.00	T	0.02	0.17
	SEPT	0.70	0.76	0.39	0.10	0.06	0.07	0.10	0.21	0.02	T	0.00	0.16	0.03	0.02		0.02	0.00	0.07	0.01	0.00	0.00	0.10	0.00	0.11
	OCT	0.11	0.14	0.00	0.00	0.31	0.00	0.00	0.04	0.00	0.04	0.05	0.00	0.00	0.00		0.00	0.00	0.00	T	0.00	0.00	0.00	0.30	0.00
	NOV	0.93	1.17	1.08	1.14	1.13	1.17	1.34	1.24	1.67	1.90	2.37	2.08	2.60	3.48		2.67	2.86	4.39	4.16	5.23	5.07	1.05	2.69	1.18
	DEC.	2.26	2.51	1.64	1.54	1.78	1.47	1.78	0.94	1.68	1.44	1.97	1.52	1.66	2.62		1.82	2.14	1.25	1.12	1.48	1.45	1.60	1.73	1.57
	ANNUAL	11.62	12.54	6.70	6.95	8.66	6.23	7.21	5.85	7.95	8.36	8.92	7.96	8.38	10.89		9.22	9.59	9.14	7.56	9.23	10.04	6.80	10.34	6.42
1966	JAN.	1.01	1.09	0.88	0.75	0.74	0.29	0.43	0.61	0.82	0.38	0.54	0.77	0.52	0.95		0.63	0.52	0.72	0.67	0.59	0.33	0.70	0.53	0.60
	FEB.	1.69	2.17	1.21	1.70	1.79	0.77	0.74	0.79	0.63	0.69	0.85	0.59	0.70	0.57		0.78	0.84	1.53	0.80	0.66	0.99	1.14	0.54	1.12
	MAR	0.15	0.09	0.04	0.04	0.04	0.02	0.05	0.19	0.04	0.04	0.15	0.02	0.01	0.09		0.01	0.01	0.07	0.02	0.02	0.03	0.29	0.01	0.01
	APR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04		T	0.08	0.01	0.00	0.00	0.03	0.00	0.15	0.00
	MAY	0.04	0.07	0.00	T	0.01	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00		0.00	0.00	0.01	0.00	0.00	0.00	T	0.10	0.00
	JUN.	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.00	0.05	0.03	0.11	0.07	0.08	0.13		0.15	0.04	0.04	0.04	0.00	0.00	T	0.07	0.05
	JUL.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.03	0.00	0.19	0.30	0.24	0.00	T	0.03	T
	AUG	T	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04		0.00	0.00	0.00	0.00	0.00	0.00	T	0.00	0.00
	SEPT	0.21	0.36	0.20	0.28	0.30	0.10	0.12	0.17	0.05	0.01	T	0.00	0.00	0.04		0.01	0.00	0.06	0.01	0.11	0.00	0.03	0.03	0.37
	OCT	0.02	0.01	0.00	T	0.00	0.00	0.00	T	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	T	0.00	0.00
	NOV	0.67	0.89	0.48	0.49	0.81	0.91	0.74	0.86	0.50	0.78	1.02	0.91	0.81	1.04		0.68	0.82	0.61	0.61	0.62	0.76	0.88	1.57	0.69
	DEC	1.26	1.29	0.27	0.64	0.89	0.99	1.82	1.17	1.15	1.54	2.07	1.61	2.41	4.81		3.60	5.88	2.64	2.38		3.81	1.58	3.04	1.01
	ANNUAL	5.05	6.00	3.08	3.00	4.58	3.12	3.95	3.79	3.24	3.48	4.74	3.97	4.53	7.71		5.89	8.19	5.88	4.83		5.95	4.62	6.07	3.94
1967	JAN.	0.68	0.62	0.63	0.57	0.61	0.61	0.66	1.07	0.73	0.67	1.11	0.56	0.63	1.23		0.94	0.95	1.00	1.05		1.45	0.96	2.21	0.62
	FEB	0.21	0.31	0.10	0.07	0.14	0.10	0.08	0.23	0.01	0.05	0.13	0.05	0.07	0.28		0.12	0.21	0.07	0.09		0.08	0.03	0.22	0.06
	MAR	1.19	1.38	0.36	0.52	0.70	0.42	0.25	0.24	0.42	0.30	0.36	0.78	0.91	2.08		1.37	1.27	0.69	1.15		0.95	0.52	3.15	0.36
	APR	3.82	3.81	2.88	2.88	2.78	2.19	1.62	1.97	2.59	1.30	1.86	2.07	2.09	3.41		1.94	2.81	1.74	1.99		1.89	2.65	4.41	1.51
	MAY	0.23	0.28	0.09	0.10	0.13	0.19	0.04	0.09	0.17	0.05	0.08	0.05	0.04	0.02		0.25	T	0.05	0.07		0.04	0.28	0.19	0.07
	JUN.	0.00	0.00	T	0.03	0.02	0.16	0.15	0.20	0.49	0.06	0.17	0.26	0.05	0.45		0.16	0.16	0.00	0.02		0.00	0.20	0.14	0.08
	JUL.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	T	T	0.00	0.00		0.00	0.00	0.00	0.00		0.00	T	T	0.00
	AUG	T	T	0.00	0.02	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	T	T
	SEPT	0.59	0.76	0.09	0.10	0.07	0.03	0.05	0.32	0.51	0.11	0.40	0.04	0.35	0.24	0.08	0.51	0.14	0.12	0.13		0.13	0.11	T	0.34
	OCT.	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.17		0.17	0.00	0.07	0.00
	NOV	2.05	1.82	2.66**	2.72	3.17**	1.67	1.82	1.42	2.11	2.84	1.48	2.08	2.72	2.55	1.70	3.16	2.17	1.48	1.34		0.88	1.76	1.55	1.89
	DEC.	1.16	0.98	0.31	0.34	0.33	0.37	0.23	0.44	0.52	0.36	0.49	0.40	0.54	0.58	0.51	0.95	0.52	0.36	0.27		0.54	0.54	1.04	0.27
	ANNUAL	9.93	10.08	7.12	7.35	8.11	5.74	4.90	5.98	7.60	5.74	6.08	6.29	7.40	10.84		9.40	8.23	5.67	6.28		6.16	7.05	12.98	5.20
1968	JAN.	0.74	0.69	0.37	0.38	0.37	0.29	0.16	0.19	0.27	0.20	0.25	0.28	0.27	0.65	0.42	0.35	0.61	0.17	0.22		0.44	0.43	1.05	0.13
	FEB.	0.73	0.70	0.53**	0.62	0.76**	0.88	1.04	0.69	0.61	0.54	0.48	0.76	0.78	0.44	0.51	0.66	0.58	0.63	0.65		0.75	0.56	1.10	0.54
	MAR	0.43	0.65	0.74**	0.81	0.92**	0.96	1.14	0.89	1.29	1.07	0.28	1.54	1.38	1.75	1.21	1.31	1.70	1.46	0.86		1.15	1.01	1.49	0.85
	APR	0.27	0.31	0.24**	0.32	0.36	0.17	0.33	0.57	0.49	0.17	0.90	0.44	0.32	0.64	0.46	0.43	0.61	0.33	0.60		0.37	0.66	0.70	0.23
	MAY	0.23	0.26	0.16	0.01	0.06	0.05	0.02	0.00	0.10	T	T	T	T	0.00	0.01	0.04	0.00	0.00	0.01		0.00	0.06	0.24	T

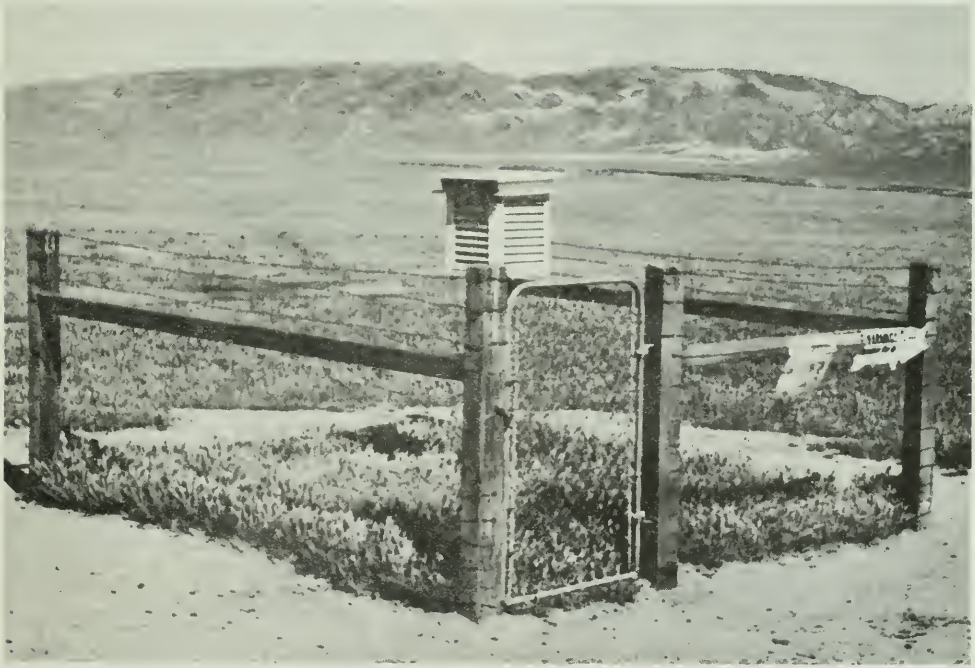
T Trace
* Evaporation evidence indicated greater precipitation.
** Seven days of data were collected.

At the recording stations and at stations read daily, monthly precipitation totals represent the sum of the daily values (Table 7). Elsewhere, monthly totals represent the sum of weekly readings. Whenever the weekly reading included the end of one month and the start of the next, precipitation was assigned to the appropriate month only after studying precipitation data at the nearest station with a daily record. Annual precipitation reported is the sum of the monthly values.

Ground fogs are frequently condensed and recorded as precipitation. The amount recorded ranged from a trace to .04 inches. Evaporation from the rain gauges, although retarded by use of hexadecanol powder, was particularly evident between weekly readings during warm months. Precipitation values were then obtained by measuring from the top of the cup to the top of the debris ring left principally by the hexadecanol and by subtracting this reading from that of the full cup.

Precipitation in the study area reaches a maximum average of 8 to 10 inches annually at the higher elevations, but averages less than six inches over most of the irrigable lands. Measurable precipitation occasionally occurs during June through August. Of all transects, Transect A shows the most rain, probably because stations with rain gages lie at the higher elevations.

Rainfall increases from west to east along the northern slopes of the San Emigdio Mountains as a result of the



CATTLE FENCE marks off a ten-foot square at Station A-30-130, one of twenty such satellite stations whose rangeland location required fences. Wheeler Ridge rises in the background.

Table 8. EVAPORATION

Year	Month	Net Atmometer Evaporation, in milliliters A/							Pan Evaporation, in inches		
		A-25-122	B-35-070	C-40-070	D-40-080	E-40-070	F-75-070	G-15-060	D-40-080	G-15-060	Coalinga B/
1963	April	361	353	337	335						
	May	479	435	461	463						
	June	524	492	506	474		464				
	July	617	593	626	578		630				
	Aug.	548	585	528	501		566	511			
	Sept.	441	462	431	420	381	416	357			
	Oct.	326	337	313	358	336	336	314			
	TOTAL	3,296	3,257	3,202	3,129	Incomplete records					
1964	April	395	440	445	392	441	382	463			
	May	450	478	549	406	532	442	539			
	June	510	480	608	510	559	475	537			
	July	597	480	783	699	631	567	593			
	Aug.	603	437	706	623	537	490	518			
	Sept.	532	391	549	549	476	373	466			
	Oct.	419	347	474	463	404	351	363			
	TOTAL	3,506	3,053	4,114	3,642	3,580	3,080	3,479			
1965	Jan.								1.67		1.50
	Feb.								3.56		3.41
	March								5.60		5.45
	April	345	381	443	358	399	378	407	6.56		6.48
	May	540	593	584	476	580	497	595	14.48		12.67
	June	547	528	575	521	583	550	621	14.31		12.18
	July	429	435	559	415	503	412	621	17.31		14.65
	Aug.	530	606	698	625	724	733	743	15.52	15.35 C/	13.44
	Sept.	427	421	493	442	509	419	505	11.12	10.50	9.64
	Oct.	394	354	411	392	470	389	455	8.67	8.69	7.71
	Nov.								3.39	2.60 D/	1.69 E/
	Dec.								0.88	1.08	0.69
	TOTAL	3,212	3,318	3,763	3,229	3,768	3,378	3,947	103.07		89.51
1966	Jan.								2.29	2.03	1.73
	Feb.								2.54	3.08	2.36
	March								5.79	5.70	4.95
	April				420 F/			496 F/	10.78	9.98	8.26
	May				460 F/			719 F/	14.62	12.70	11.81
	June				567 F/			703 F/	16.58	15.13	13.47
	July								18.57 D/	16.07 D/	13.92
	Aug.	507	440	506	477	598	435	719	18.05 D/	16.27 D/	13.84
	Sept.	416	414	448	394	525	426	539	11.55	10.33	8.81
	Oct.	354	346	363	336	542	359	464	9.10	8.14	6.64
	Nov.								4.39	3.40	2.64
	Dec.								1.15 D/	0.95	0.74
	TOTAL				Incomplete Records				115.41	103.78	89.17
1967	Jan.								2.17	1.93	1.58
	Feb.								2.17	2.22	2.19
	March								5.23	4.30	4.22
	April	384	293	316	242	360	334	312	4.91	4.37	3.55
	May	427	520	470	547	519	488	413	12.52	11.45	10.11
	June	568	489	669	574	511	486	505	14.73	13.76 D/	11.62
	July	601	521	626	661	437	507	507	18.29	19.15	15.26
	Aug.	498	627	616	633	402	504	447	18.04	17.95	14.04
	Sept.	393	520	503	400	401	444	374	11.51	11.72	8.97
	Oct.	358	477	408	542	419	402	692	8.81	8.77	6.62
	Nov.								3.80	3.34	2.85
	Dec.								1.84 D/	1.90	1.50
	TOTAL	3,229	3,447	3,608	3,599	3,049	3,165	3,250	104.02	100.86	82.51
1968	Jan.								2.10	2.10	1.86
	Feb.								2.17	2.48	2.22
	March								5.91	6.05 C/	4.82
	April								10.89	10.89 D/	9.72
	May								13.20	13.78	11.80
	June								18.36	17.43	15.96
	July								16.81	18.65 D/	15.29
	Aug.								14.13 D/	15.44	12.84
	Sept.								11.98	12.22	10.53
	Oct.								5.35	6.53	5.69
	Nov.								2.08	2.43	1.86
	Dec.								1.86	1.14	1.73
	TOTAL								104.84	109.14	94.32

A/ Measurements taken once a week. When the week's measurement includes the final days of the former month and the early days of the present month, the former month's weekly measurements are plotted together with the present measurement. The evaporative amounts to be assigned to each month are estimated from the cumulative plot.

B/ Non network station is operated by U. S. Bureau of Reclamation.

C/ Four days of data are estimated.

D/ Seven days of data are estimated.

E/ Six days of data are estimated.

F/ Coefficients are determined by correlation.

G/ Three days of data are estimated.

condensation of moist maritime air which has moved from the coast up through Cuyama Pass. Similarly, rainfall increases from south to north along the eastern face of the Temblor and Diablo Ranges as a result of the condensation of moist maritime air moving from the coast up through the relatively low Cuyama, Polonio and Cottonwood passes. Indeed, in the San Joaquin Valley as a whole, rainfall increases in a northerly direction from the Tehachapi Mountains to the Sacramento-San Joaquin Delta.

The rain provides natural vegetation for sheep pasturage but is insufficient to sustain other agricultural operations and must be supplemented by irrigation. Fruit grown in the study area should be less affected by water spot, septoria stain and similar rind disorders than that grown on the east side of the San Joaquin Valley because study area rainfall is less than east side rainfall.

Evaporation. Evaporation in the study area was measured both by atmometer and by pan. Because evaporation data were of interest primarily as a means of predicting crop water use, these data were collected as part of the Department's Irrigation Water Use and Practices Program. Table 8 presents monthly data from eight stations.

Three pairs of black and white Livingston atmometer spheres were installed at the standard 54-inch height at seven major stations. These atmometers were calibrated against standards maintained at the Bakersfield office of the Department of Water Resources.*

At weekly field inspections, any sphere that deviated more than three percent from the average of the other two spheres of the same color was exchanged for a newly calibrated sphere.

Because of winter and spring frost hazards, atmometers were operated only from April through October. Each week all spheres were rotated 90 degrees on their water supply reservoirs to insure uniform exposure. At the same time, they were washed with distilled water to keep them as free of dust as possible. Despite the washing, dust caused a somewhat unpredictable variation in evaporation readings between stations although the readings at a single station were kept in close agreement. Seasonal evaporation among the stations with four years of complete record indicates no consistent pattern of higher or lower evaporation for individual stations.

Weekly readings are considered to be within plus or minus ten percent of those attainable with daily measurement. To determine evaporation loss during month-end periods, the cumulative average black sphere and white sphere evaporations were plotted separately against time. The month-end total was then taken from the plotted graph.

Monthly net atmometer evaporation reported in Table 8 is the average net evaporation of each station's atmometers. To obtain monthly net evaporation, the monthly total average evaporation from the three white spheres was subtracted from that of the three black spheres.

Although the principal cause of evaporation from crops in large, irrigated blocks of land is radiant energy from the sun, an additional cause of evaporation from the undeveloped lands of the study area is advective energy from hot, moving air. Net atmometer evaporation, unlike pan evaporation, is

*See Department of Water Resources Office Report "Vegetative Water Use Studies in the San Joaquin Valley, 1961-62". March 1964

largely independent of advective energy. Since crop water use in large irrigated areas is also largely independent of advective energy, atmometers are superior to the pan in determining the potential evaporative demand from crops in the study area. Nevertheless, because atmometers are difficult to operate accurately under field conditions, standard U. S. Weather Bureau evaporation pans were installed together with atmometers at major stations D-40-080 and G-15-060. A supply tank, equipped with a calibrated manometer tube, was positioned downwind and so that its shadow never crossed the pan. To this tank was attached a float-level device which maintained the pan water level (plus or minus one-quarter inch) two inches below the rim during the dry season and three inches below the rim during the rainy season. Corrections for precipitation into the pan during the rainy season were made after study of precipitation recorded in the adjacent rain gauge. Pan evaporation losses were read weekly. The observer first noted water level change in the manometer tube, then algebraically corrected volume loss with a hook gage reading made at the evaporation pan itself. He cleaned the pans of dirt and algae growth whenever necessary. When the water in the pans was frozen, he broke the ice layer so that all ice was floating and he could measure a correct water level. Occasionally records were lost. Squirrels sometimes chewed through the water supply line to the pan. Rainfall sometimes caused the pan to overflow. Birds and rodents sometimes managed to break through a two-inch high protective strip of half-inch spaced vertical wires installed around the tops of the pan and then to drink the water.

In addition to weekly readings at these two stations daily readings were taken by the U. S. Bureau of Reclamation at its Weather Station near Coalinga (Table 8). When loss of record occurred, evaporation was estimated by double mass correlation with this station. The correlation period included six weeks prior to and six weeks following the lost record. This 12-week period established a relationship for the same general evaporation period. Monthly pan evaporation was determined from a cumulative plot against time of weekly evaporation loss. The plot served to prorate month end losses. Annual pan evaporation was the sum of

Table 9 CONSUMPTIVE USE BY IRRIGATED CROPS 1963-65 and 1967

Month	Net Atmometer Evaporation, Average, in milliliters		Estimated Consumptive Use, in Inches of Depth															
			Irrigated Pasture C/		Alfalfa (hay) C/		Sugar Beets C/		Cotton C/ Solid & 2x1		Cotton C/ 2x2		Deciduous Orchard C/		Spring Potatoes D/		Tomatoes D/ (Mech. Harvested)	
	Arvin Station	West Side A/	Arvin Station	West Side	Arvin Station	West Side	Arvin Station	West Side	Arvin Station	West Side	Arvin Station	West Side	Arvin Station	West Side	Arvin Station	West Side	Arvin Station	West Side
March	352	300 E/	3.7	3.2	3.5	3.0	1.7	1.4					1.8	1.6	0.5	0.5		
April	374	369	4.5	4.4	4.0	4.0	3.3	3.2					3.2	3.1	3.1	3.1	0.9	0.9
May	488	495	6.5	6.6	5.6	5.7	5.8	5.8	1.0	1.0	0.6	0.6	5.4	5.4	6.8	7.0	6.0	6.0
June	518	530	7.2	7.4	6.2	6.4	7.4	7.6	5.7	5.8	3.6	3.7	6.2	6.4	4.6	4.7	6.0	6.1
July	572	566	8.0	7.9	6.9	6.8	8.4	8.3	9.6	9.5	8.9	8.8	7.4	7.3	1.0	1.0	3.6	3.6
August	540	574	7.3	7.7	6.2	6.6	5.2	5.6	8.4	8.9	7.6	8.0	6.0	6.4				
September	452	446	5.4	5.4	4.5	4.5	1.6	2.0	5.2	5.1	4.5	4.5	4.2	4.1				
October	372	404	3.7	4.0	3.2	3.4			2.2	2.4	1.7	1.8	2.5	2.7				
March-Oct	3668	3684	46.3	46.6	40.1	40.4	33.4	33.9	32.1	32.7	26.9	27.4	36.7	37.0	16.0	16.3	16.5	16.6

A/ Averages for the seven stations of the West Side Crop Adaptability Study reported in Table 8

B/ Assumed equal to Penman's "Potential ET"

C/ Calculated from net atmometer evaporation and atmometer coefficients in Table 14 "Tentative Recommended Monthly Evapotranspiration Coefficients for Some Principal Central Valley Crops", of Bulletin No. 113-2, "Vegetative Water Use", California Department of Water Resources, August 1967

D/ Calculated from net atmometer evaporation and atmometer coefficients determined from ET studies conducted near Bakersfield by the California Department of Water Resources

E/ Estimated

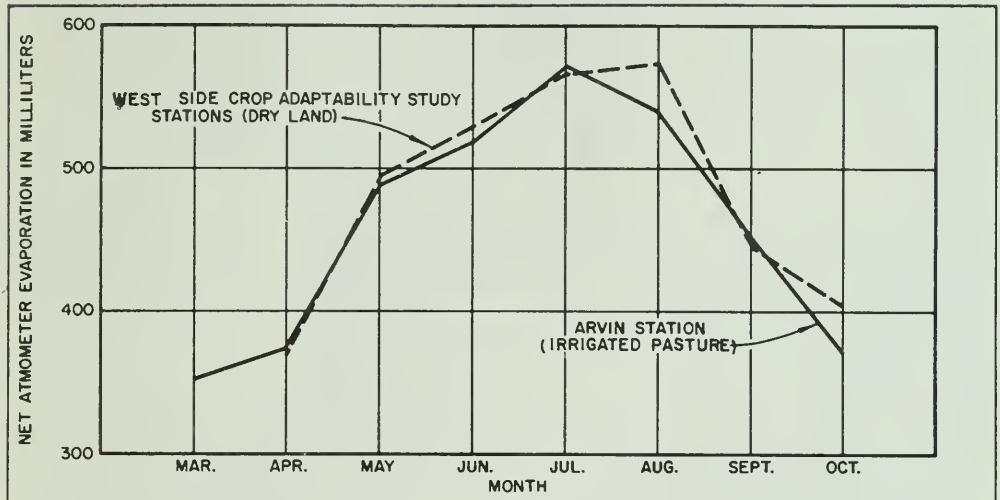


Figure 6. MONTHLY NET ATMOMETER EVAPORATION

monthly losses. Accuracy of the records is considered to be within five percent of that with daily readings.

Of the many methods proposed for estimating the consumptive use of water by crops, one of the most practical is the evapotranspiration-evaporation correlation method.* In using this method, Department of Water Resources personnel first carefully measured actual consumptive use of water by crops on field plots near Arvin, the center of a long-established irrigated region southeast of Bakersfield. Concurrently they measured atmometer evaporation in the same area. From these data "atmometer coefficients" were developed, relating crop consumptive use to atmometer evaporation. These coefficients were then used with study area atmometer data to estimate potential consumptive use there.

Table 9 gives the monthly net atmometer evaporation rates in the irrigated pasture environment at the Department of Water Resources Arvin Station and in the dry land stations of the study area. Also shown is the consumptive use of irrigated crops based on data from both types of station, computed from the Arvin coefficients.

Averages in Table 9 derived from Table 8 exclude 1966 data because they were incomplete. 1963 data were given equal weight in averaging though only four of the stations were operating completely through that year.

Evaporation rates and, therefore, consumptive use of water under full agricultural development prove essentially the same for the study area as for the Arvin area (Figure 6).

During early stages of development in the study area, isolated blocks of irrigated land may be surrounded by dry lands. Although warm, dry winds will increase the rate of consumptive use

*The method is described in Department of Water Resources Bulletin No. 113-2, "Vegetative Water Use", August 1967.

ATMOMETER SPHERES (right) at Station E-40-070. Other instruments pictured (left to right) are the wind vane and recorder, the soil thermograph in its shelter, and the hygrothermograph shelter.

in such isolated blocks, the increase may be less than is commonly thought. Hudson* studied evaporative demand along a transect extending from a large desert into an irrigated area in the Sudan. Although evaporation measured on cotton fields downwind from the desert was 50 percent greater at the leading edge of the cotton than at the trailing edge, most of this increase in evaporation occurred within 60 yards of the leading edge. Should a dry wind blow diagonally across an isolated quarter section of irrigated land in the study area, a 50 percent increase in evaporation demand extending 60 yards in from the leading edge would, according to Hudson's figures, result in only a five percent increase in evaporation for the entire quarter section. This increase is within the limits of confidence for the estimated consumptive use shown in Table 9.

Cloud Conditions. The pyrheliograph, by recording the intensity of solar radiation, gives a general picture of fog and cloud conditions during daylight hours. Observers compared the recorded trace area with that which would have occurred on a cloud-free day at the same time of the year. They classed the day as clear if the recorded

*Hudson, J. O., "Evaporation Under Hot Dry Conditions, Changes Across Ten Miles of Cotton and Fallow in the Sudan", The Empire Cotton Growing Review, Vol. XLI, No. 4, 1964.

Table 10: CLOUD CONDITIONS, in days

Year	Month	Station B-35-070 Clear	Partly Cloudy	Mostly Cloudy	Overcast	C-60-108 Clear	Partly Cloudy	Mostly Cloudy	Overcast	D-40-080 Clear	Partly Cloudy	Mostly Cloudy	Overcast	E-25-040 Clear	Partly Cloudy	Mostly Cloudy	Overcast
1963	Sept.	17	10	2	1	18	9	3	0	17	10	3	0	20	7	2	1
	Oct.	13	9	8	0*	11	13	6	1	10	15	6	0	14	8	6	2*
	Nov.	2	3	3	4*	4	13	11	2	5	13	12	0	5	13	10	2
	Dec.	4	7	16	4	4	11	14	2	5	10	16	0	0	0	1	6*
	Annual																
1964	Jan.	7	10	8	2*	6	19	4	2	7	18	6	0	2	10	4	1*
	Feb.	18	11	0	0	18	9	2	0	23	4	2	0	21	3	1	0*
	Mar.	12	11	8	0	11	14	6	0	11	14	5	0	13	14	4	0
	Apr.	15	12	3	0	15	14	1	0	17	12	1	0	14	14	2	0
	May	16	14	1	0	12	16	3	0	15	13	3	0	18	11	2	0
	Jun.	19	11	0	0	17	11	2	0	18	12	0	0	19	11	0	0
	Jul.	26	5	0	0	26	5	0	0	27	3	1	0	28	2	1	0
	Aug.	22	9	0	0	23	7	1	0	22	9	0	0	23	8	0	0
	Sept.	25	5	0	0	24	6	0	0	25	5	0	0	25	5	0	0
	Oct.	18	13	0	0	20	10	1	0	22	8	1	0	23	6	2	0
	Nov.	7	17	6	0	7	18	5	0	8	21	1	0	6	19	5	0
	Dec.	1	18	12	0	3	16	11	1	3	17	10	1	1	17	11	2
	Annual	186	136	38	2	182	145	36	3	198	136	30	1	193	120	32	3
1965	Jan.	2	20	8	1	4	15	12	0	7	16	8	0	3	10	12	6
	Feb.	9	13	6	0	9	15	4	0	10	12	6	0	10	10	6	2
	Mar.	9	18	2	2	7	18	6	0	10	15	6	0	7	19	5	0
	Apr.	8	14	8	0	5	19	6	0	6	18	6	0	6	15	9	0
	May	15	16	0	0	12	19	0	0	18	13	0	0	16	15	0	0
	Jun.	21	9	0	0	18	12	0	0	20	9	1	0	21	8	1	0
	Jul.	23	7	1	0	20	10	1	0	23	7	1	0	23	7	1	0
	Aug.	19	12	0	0	19	9	1	0*	20	11	0	0	19	12	0	0
	Sept.	21	9	0	0	23	6	1	0	23	7	0	0	23	7	0	0
	Oct.	21	10	0	0	19	12	0	0	18	13	0	0	18	13	0	0
	Nov.	9	14	7	2*	4	19	4	3	4	16	8	2	5	14	7	4
	Dec.	4	11	15	1	3	13	14	1	3	11	17	0	2	11	16	2
	Annual	157	153	47	6	143	167	49	4	162	148	53	2	153	141	57	14
1966	Jan.	8	21	1	1	7	17	6	1	6	21	3	1	3	19	7	2
	Feb.	7	15	6	0	7	16	4	1	7	17	3	1	7	13	5	1
	Mar.	12	17	2	0	12	16	3	0	10	17	4	0	9	18	4	0
	Apr.	15	15	0	0	16	13	1	0	17	12	1	0	14	8	2	0*
	May	18	13	0	0	19	11	1	0	21	9	1	0	18	11	2	0
	Jun.	24	5	1	0	22	8	0	0	22	8	0	0	24	6	0	0
	Jul.	25	5	1	0	26	4	1	0	26	4	1	0	26	2	0	0*
	Aug.	26	4	1	0	28	3	0	0	27	4	0	0	19	1	0	0*
	Sept.	21	7	1	0*	22	7	0	1	23	6	1	0	23	6	1	0*
	Oct.	17	12	0	0*	18	12	1	0	16	11	1	0*	19	11	1	0
	Nov.	5	15	6	0*	7	15	7	1	6	15	7	1*	6	17	6	1
	Dec.	2	8	14	5*	2	6	8	5*	2	11	11	7	3	10	12	6
	Annual	180	137	33	6	186	128	32	9	183	135	33	10	171	124	40	10
1967	Jan.	7	18	4	0*	7	19	5	0	9	18	3	1	4	19	8	0
	Feb.	2	15	4	0*	4	16	8	0	4	17	7	0	5	14	9	0
	Mar.	7	17	5	0*	6	18	7	0	9	18	4	0	10	16	5	0
	Apr.	0	17	5	0*	0	19	10	1	1	22	7	0	1	21	8	0
	May	14	17	0	0	15	15	1	0	16	15	0	0	16	15	0	0
	Jun.	19	10	1	0	15	15	0	0	18	12	0	0	18	12	0	0
	Jul.	18	12	1	0	16	14	1	0	18	13	0	0	16	9	0	0*
	Aug.	19	12	0	0	18	13	0	0	23	8	0	0	23	8	0	0
	Sept.	14	12	4	0	13	12	3	0*	17	12	1	0	18	10	2	0
	Oct.	21	9	0	0*	19	10	0	0*	22	9	0	0	21	10	0	0
	Nov.	6	14	1	0*	7	14	6	1*	6	15	9	0	6	18	5	1
	Dec.	14	12	5	0	13	17	1	0	11	18	2	0	14	9	2	0*
	Annual	141	165	30	0	133	182	42	2	154	177	33	1	152	161	39	1
1968	Jan.	6	14	9	2	3	23	4	1	7	18	5	1	4	18	8	1
	Feb.	2	23	3	1	2	20	7	0	2	19	8	0	1	22	6	0
	Mar.	9	18	2	1*	10	19	2	0	11	15	5	0	12	17	2	0
	Apr.	13	10	2	0*	17	11	2	0	19	9	2	0	13	11	2	0*
	May	19	11	1	0	19	10	2	0	19	12	0	0	19	12	0	0

*Partial record this month.

area was at least 95 percent of the potential area; as partly cloudy if it was from 60 to 95 percent of that area; as mostly cloudy if from 25 to 60 percent; and as overcast if less than 25 percent. Dust and haze, which only slightly decreased the recorded trace area, did not affect the tabulation of cloud condition classes.

Pyrheliographs, calibrated and checked against the pyrheliograph at the U. S. Weather Bureau Station in Fresno, were installed at four network stations.

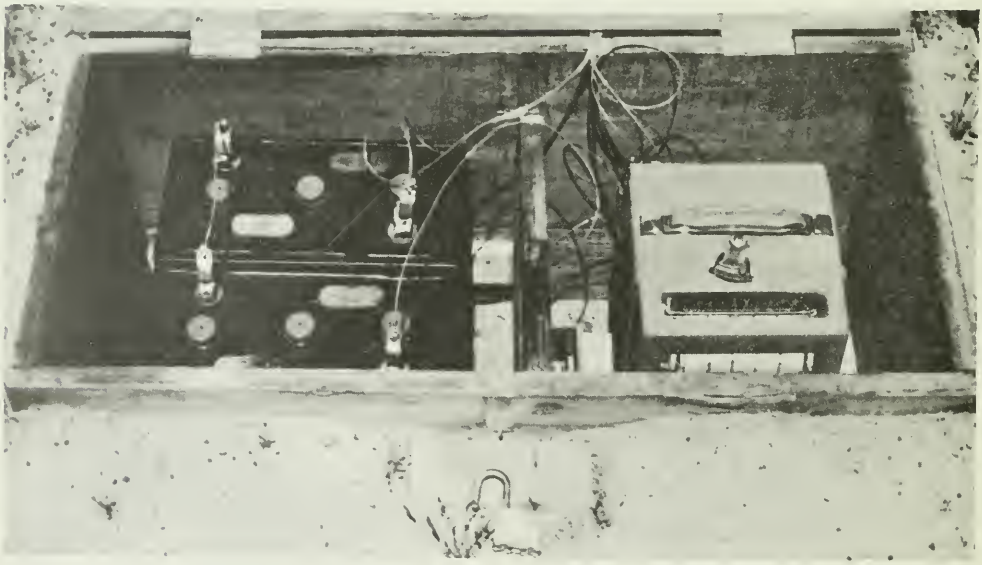
Table 10 presents cloud condition data gathered from these pyrheliographs for each month of the year. Those months are marked for which sufficient trace on any chart was missing to cause the loss of a day or more of record. Total days of record during any month can be

determined by adding the four columns. Annual cloud condition data represent the sum of the monthly data. This sum is not entered if full months of data are missing.

In the study area, the days generally are clear or partly cloudy; only ten to fifteen percent are mostly cloudy or overcast. Sunlight limitations to crop adaptability, therefore are minor. Sunburn of citrus leaves and fruit will be about the same as in the east side of the San Joaquin Valley and should not affect the crop adversely.

Wind. Wind velocity and direction records cover only three to four years. The short period of record results from a delay in the installation of wind recorders. Such recorders were placed in previously established stations only as funds permitted. Wind direction records, eventually obtained at ten major stations, are considered accurate only to within 25 degrees in the compass circle because of problems associated with operating the complex direction recording system. This system consisted of a standard large wind vane, placed nine feet above ground, which was connected to a spring clock recorder equipped with electrically-actuated pens, battery-powered. The pens inked onto a two-week chart roll each mile of wind passing from any of eight compass directions. Recorder clock accuracies were held to within five minutes per week.

Factors which decreased the accuracy and completeness of wind velocity and direction records include errors in the original orientation of the wind vanes, corroded wind vane and anemometer contacts (difficult to detect in the field), pens clogged by cakes of dust and ink, as well as by small particles of paper which new pen points tended to scrape from the chart. Low battery voltage, caused by reduction in the storage



WIND RECORDER (right) at Station B-35-070 contains pens actuated by two six-volt storage batteries (left). All wind recorders were buried to protect them from bullet damage.

Table 11. WIND

Year	Month	A-25-122 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	Dir.	≥ 30 M.P.H. Hrs.	Dir.	B-35-070 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	Dir.	≥30 M.P.H. Hrs.	Dir.	C-40-070 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	Dir.	≥ 30 M.P.H. Hrs.	Dir.
1964	Jan.	3,380*							2,480*							3,010*						
	Feb.	4,200*							2,440*							3,130*						
	Mar.	4,030*							4,280*							4,220*						
	Apr.	4,320*							3,870*							4,440*						
	May	4,180*							3,970*							4,310*						
	Jun.	4,200*							3,510*							3,840*						
	Jul.	3,720*							3,070*							3,040*						
	Aug.	3,410*							2,940*	15	N	1	N	0	458**	3,040*	23	NW	12	SW	0	443**
	Sept.	3,330*							2,730	15	SW	2	SW	0	119**	2,972	17	SW	6	SW	0	
	Oct.	3,410*	26		14		0	443**	2,489	15	W	1	W	0	20**	2,867	15	SW	2	SW	0	
	Nov.	3,920	25		16		0	56**	2,538	13	SW	0		0		3,076	24	SW	11	SW	0	
	Dec.	3,442	25		21		0	189**	2,500	13	SW	0		0		2,621	15	SW	1	SW	0	
	Annual	45,612							36,817							40,566						
1965	Jan.	2,657	19		7	NW	0	152**	2,049	14	N	0		0		2,258	19	SW	9	NW	0	
	Feb.	3,204	16	NW	3	NW	0	185**	2,272	15	N	0		0		2,834	25	N	8	NW	0	
	Mar.	4,011	24	SE	34	SE	0	313**	3,324	19	SW	6	SW	0		3,375	22	S	17	SW	0	12**
	Apr.	3,824	11	NW	0		0	544**	3,106	22	SW	3	SW	0		3,715	17	SW	6	SW	0	
	May	4,415	15	S	2	S	0	90**	4,260	18	SW	14	W	0		4,316	20	W	24	W	0	
	Jun.	3,607	17	NW	2	NW	0	9**	3,634	16	W	9	W	0		3,607	21	SW	11	W	0	12**
	Jul.	3,425	16	SW	2	SW	0		3,131	15	W	2	W	0		2,985	16	SW	3	SW	0	129**
	Aug.	3,280	14	SE	0		0		2,693	12	N	0		0		3,044	14	N	0		0	
	Sept.	3,151	8	N	4	SE	0	251**	2,798	14	W	0		0		2,924	17	N	3	W	0	30**
	Oct.	3,193	16	NW	2	NW	0		2,612	14	SW	0		0		2,780	15	W	1	N	0	86**
	Nov.	3,911	27	S	57	S	0		2,138	11	V	0		0		2,725	24	W	10	S	0	
	Dec.	2,846	23	SE	24	SE	0		2,046	11	W	0		0		2,410	25	SW	7	SW	0	
	Annual	41,524	27	S	137	SE	0		34,063	22	SW	34	W	0		36,973	25	W	99	W	0	
1966	Jan.	3,698	27	SE	34	SE	0		2,559	21	SE	9	SE	0		2,779	17	SW	1	SW	0	
	Feb.	3,921	29	SE	61	SE	0		2,351	10	W	0		0		2,626	16	V	2	SE	0	
	Mar.	4,107	25	SE	42	SE	0	133**	2,886	19	W	2	W	0	251**	3,257	15	SW	1	SW	0	
	Apr.	3,809	20	SE	10	SE	0	83**	3,333	19		10		0	85**	3,769	21	SW	7	SW	0	209**
	May	3,668	20	SE	7	SE	0		3,601	18	SW	17	SW	0		3,809	19	SW	20	SW	0	57**
	Jun.	3,704	12	NW	0		0		3,288	20	SW	6	SW	0		3,568	20	SW	5	SW	0	
	Jul.	3,300	9	W	0		0	160**	2,934	15	SW	1	SW	0	155**	3,104	14	SW	0		0	
	Aug.	3,660	11	SW	0		0	13**	3,071	10	SW	0		0	11**	3,122	17	SW	1	SW	0	10**
	Sept.	3,436	23	SE	9	SE	0		2,769	17	SW	1	SW	0		2,872	16	SW	1	SW	0	38**
	Oct.	3,763	27	SE	20	SE	0		2,575	16	SW	4	SW	0		2,988	14	NW	0		0	127**
	Nov.	3,281	29	SE	25	SE	0		2,156	14	NE	0		0		2,598	20	SW	1	SW	0	
	Dec.	2,512	16	NW	2	NW	0	167**	1,939	12	SW	0		0		2,803	32	SW	26	SW	2	SW 17**
	Annual	42,859	29	SE	210	SE	0		33,462	21	SE	50	SW	0		37,295	32	SW	65	SW	2	SW
1967	Jan.	3,743	34	S	23	SE	3	S	2,617	37	SW	8	SW	4	SW	3,254	38	SW	20	SW	6	SW 10**
	Feb.	3,019	22	SE	18	S	0		2,193	14		0		0		2,703	25	SW	6	SW	0	135**
	Mar.	4,249	22	SE	30	NW	0		3,639	22	W	29	W	0		4,118	24	W	9	SW	0	214**
	Apr.	3,313	21	NW	9	SE	0		3,283	21	W	8	W	0		3,859	20	SW	25	SW	0	155**
	May	3,761	20	NW	2	NW	0		3,794	19	SW	12	SW	0		4,204	21	SW	13	SW	0	30**
	Jun.	3,561	13	NW	0		0		3,902	20	SW	30	SW	0	105**	4,013	21	W	30	W	0	91**
	Jul.	3,243	13	SE	0		0		3,091	15	SW	3	SW	0	59**	3,213	16	W	6	W	0	61**
	Aug.	3,402	20	SE	11	SE	0		2,843	13	SW	0		0	280**	3,048	13	NW	0		0	
	Sept.	3,049	19	SE	7	SE	0		2,854	17	N	3	SW	0		2,881	20	SW	8	SW	0	38**
	Oct.	3,497	22	SE	11	SE	0		2,599	17	E	4	E	0		3,276	19	SW	8	SW	0	
	Nov.	3,002	23	E	15	SE	0	168**	1,993	16	SW	1	SW	0		2,462	22	SW	6	SW	0	
	Dec.	2,863	23	SE	11	SE	0	66**	2,201	11	NW	0		0		2,928	16	SW	2	SW	0	
	Annual	40,792	34	S	137	SE	3	S	35,009	37	SW	98	SW	4	SW	39,959	38	SW	133	SW	6	SW
1968	Jan.	2,569	26	SE	42	SE	0	177**	2,138	11	W	0		0		2,606	16	SW	2	SW	0	
	Feb.	1,943	20	SE	28	SE	0		1,849	9	NE	0		0		2,060	11	N	0		0	
	Mar.	3,065	22	SE	11	SE	0	102**	2,855	18	NW	2	NW	0		3,453	22	W	8	SW	0	
	Apr.	3,996	21	SE	7	SE	0	75**	3,515	22	S	12	SW	0		3,993	21	W	23	W	0	
	May	3,146	20	NW	3	NW	0		3,409	20	W	6	W	0		4,064	21	W	22	W	0	

*Estimated from weekly totalizer readings prior to recorder installation.

**Hours of missing record when missing record is 6 hours or more. During missing record, wind direction, speed and duration were not recorded; however, total miles of wind were indicated by totalizer no anemometer.

capacity of aging batteries, accounted for the greatest loss of record. This problem, particularly severe during the cold winter months, was not fully understood for some time after the recorders were installed. During the warm part of the day, battery power frequently was sufficient to operate the recorder. Operators servicing the recorders at this time often attributed the problem to some other cause.

Wind directions reported for individual hours are the direction of greatest duration within that hour. When wind speed exceeded either 15 or 30 miles an hour for more than one hour in a month, the monthly direction reported is the most frequent direction. For those months recording an equal number of hours in two or more directions, the most frequent direction is that associated with the hours which recorded the most wind mileage. Annual wind directions are the most frequent directions shown in the table for the year. Annual wind direction for the fastest hour is the extreme value picked from the monthly values.

Prior to the installation of wind recorders, anemometers with totalizer

Table 11 WIND (continued)

Year	Month	Station 0-40-080 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Fastest Hour Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	≥15 M.P.H. Dir.	≥30 M.P.H. Hrs.	≥30 M.P.H. Dir.	Station E-40-070 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Fastest Hour Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	≥15 M.P.H. Dir.	≥30 M.P.H. Hrs.	≥30 M.P.H. Dir.	Station E-70-110 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Fastest Hour Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	≥15 M.P.H. Dir.	≥30 M.P.H. Hrs.	≥30 M.P.H. Dir.
1964	Jan.	3,130*							3,500*							4,340*						
	Feb.	3,040*							3,420*							4,550*						
	Mar.	4,220*							5,120*							6,390*						
	Apr.	4,560*							6,000*							7,050*						
	May	4,870*							6,480*							8,180*						
	Jun.	4,200*							5,670*							7,710*						
	Jul.	3,600*	19	NW	5	NW	0		4,960*							7,560*						
	Aug.	3,087	18	SW	5	SW	0	51**	4,740*							7,320*						
	Sept.	2,979	18	SW	5	SW	0	14**	4,530*	22	W	48	W	0	82**	6,210*						
	Oct.	2,954	23	SW	4	SW	0		3,816	25	W	26	W	0		5,120*	26		45		0	469**
	Nov.	3,129	28	SW	18	SW	0		3,532	22	SW	29	SW	0		4,201	19		33		0	
	Dec.	2,998	18	SW	7	SW	0		3,498	19	W	24	W	0		4,450	24		32		0	
	Annual	42,767							55,266							73,081						
1965	Jan.	2,480	20	NW	8	NW	0		2,828	20	SW	16	W	0		3,255	20	SW	15	SW	0	149**
	Feb.	2,840	24	NW	6	NW	0	40**	2,946	26	W	8	N	0		3,810	19	NW	15	NW	0	
	Mar.	3,750	21	SW	21	W	0	16**	5,087	29	SW	57	W	0		6,405	23	SW	83	W	0	
	Apr.	4,134	18	S	16	W	0		4,874	20	SW	45	SW	0		5,418	22	SW	33	SW	0	167**
	May	4,819	21	SW	36	SW	0		6,469	25	W	61	W	0	93**	7,503	25	W	110	W	0	115**
	Jun.	4,296	21	W	28	W	0		6,905	29	NW	138	W	0		9,156	27	W	295	W	0	
	Jul.	3,480	20	SW	11	SW	0		5,024	23	W	46	W	0		7,858	25	W	182	NW	0	
	Aug.	3,243	15	N	2	N	0		4,359	18	W	17	NW	0	132**	6,482	21	NW	93	NW	0	30**
	Sept.	3,367	19	W	6	NW	0		4,179	24	W	39	W	0	58**	6,352	22	NW	111	NW	0	
	Oct.	2,923	14	W	0		0	85**	3,195	19	NW	20	W	0		4,792	22	NW	46	NW	0	
	Nov.	2,588	24	SW	5	SW	0	35**	3,842	19	W	10	SW	0	72**	4,004	18	NW	29	S	0	30**
	Dec.	2,452	26	SW	8	W	0		2,741	22		4		0	162**	3,374	23	SW	13	SW	0	
	Annual	40,372	26	SW	147	W	0		51,449	29	SW	461	W	0		68,409	27	W	1,025	W	0	
1966	Jan.	2,561	14	SW	0		0		2,848	18	SW	5	SW	0		3,882	25	SW	7	SW	0	
	Feb.	2,688	14	W	0		0		2,950	19	N	4	N	0	106**	3,848	18	W	12	W	0	
	Mar.	3,083	16	SW	5	SW	0		3,263	17	W	3	W	0		4,715	19	W	14	NW	0	
	Apr.	3,660	19	SW	3	SW	0	172**	4,069	27	NW	25	W	0		6,050	26	W	57	NW	0	
	May	4,184	20	SW	41	SW	0		6,448	25	W	130	W	0		8,831	26	W	263	W	0	43**
	Jun.	3,811	22	W	15	SW	0		4,757	23	NW	41	W	0		6,870	23		38	NW	0	267**
	Jul.	3,399	17	SW	2	SW	0		4,245	17	W	13	W	0		7,168	21	SW	102	NW	0	77**
	Aug.	3,318	20	W	7	NW	0		4,172	17	NW	12	W	0		7,085	19	NW	99	NW	0	
	Sept.	3,112	21	SW	6	SW	0		3,975	22	SW	25	W	0		6,143	22	W	92	NW	0	
	Oct.	3,047	19	SW	4	SW	0		3,418	21	NW	27	W	0		5,208	23	W	41	W	0	
	Nov.	2,799	18	SW	4	SW	0		3,148	18	W	7	W	0		4,803	24	W	33	W	0	
	Dec.	2,869	31	SW	26	SW	1	SW	2,458	23	SW	20	SW	0	26**	3,342	25	SW	13	SW	0	260**
	Annual	38,531	31	SW	113	SW	1	SW	45,751	27	NW	312	W	0		67,945	26	W	771	NW	0	
1967	Jan.	3,161	32	SW	19	SW	2	SW	2,941	26	S	24	S	0		3,858	25	S	37	W	0	7**
	Feb.	2,491	28	SW	11	SW	0		2,347	19	NW	9	N	0		2,839	23	W	13	W	0	
	Mar.	4,276	30	SW	34	SW	2	SW 168**	4,279	24	NW	47	S	0		4,463	24	SW	38	W	0	
	Apr.	4,262	23	SW	37	SW	0		4,234	19	W	17	W	0		4,411	17	W	8	W	0	98**
	May	4,474	19	SW	16	SW	0	272**	5,002	20	NW	40	SW	0		5,876	23	W	52	W	0	239**
	Jun.	4,513	24	SW	49	SW	0	175**	5,598	22	W	83	W	0		7,415	24	W	85	W	0	223**
	Jul.	3,548	20	SW	9	SW	0	83**	4,280	20	NW	19	NW	0		6,461	18	W	58	W	0	156**
	Aug.	3,331	16	W	6	SW	0		3,925	17	W	8	W	0	329**	6,620	18	W	69	W	0	
	Sept.	3,115	22	SW	9	SW	0		3,450	26	NW	15	W	0	237**	5,458	25	W	66	W	0	118**
	Oct.	3,313	20	SW	11	SW	0		2,685	17	W	9	W	0		3,848	15	W	4	W	0	170**
	Nov.	2,573	20	SW	6	SW	0	193**	2,462	18	NW	6	W	0	242**	3,873	21	W	28	W	0	
	Dec.	3,008	16	N	5	SW	0	107**	2,580	20	NE	12	NE	0		3,921	19	SW	7	SW	0	
	Annual	42,065	32	SW	212	SW	4	SW	43,783	26	NW	289	W	0		59,043	25	W	465	W	0	
1968	Jan.	2,681	20	SW	3	SW	0		2,326	18	NW	7	W	0		3,583	20	SW	22	W	0	
	Feb.	2,187	9	NW	0		0		1,567	12	W	0		0		3,289	18	W	5	W	0	
	Mar.	3,641	21	SW	12	SW	0		3,219	21	NW	19	W	0		5,311	22	W	41	W	0	
	Apr.	4,333	22	SW	35	SW	0		3,782	22	NW	35	W	0		6,447	23	W	81	W	0	
	May	4,440	21	SW	42	SW	0		4,716	18	W	25	W	0	202**	7,635	24	W	171	W	0	

*Estimated from weekly totalizer readings prior to recorder installation.

**Hours of missing record when missing record is 6 hours or more. During missing record, wind direction, speed and duration were not recorded; however, total miles of wind were indicated by totalizer on anemometer.

devices measured miles of wind at nine major stations. Monthly total miles of wind reported for much of 1964 (Table 11) were estimated from the weekly totalizer readings. The accuracy of these monthly estimates is questionable only because month-end readings were not obtained in the field. As a result, totalizer readings frequently had to be prorated, part to one month, part to the next. Nevertheless, they are considered accurate to within 10 percent.

After the installation of wind recorders at 10 major stations, hourly readings taken from the wind recorder charts were used to determine the monthly total miles of wind reported in Table 11. Whenever the recorder failed, weekly anemometer totalizer readings were used to supplement the hourly readings. These weekly readings were written both onto the field sheet and the two-week chart roll of the recorder during the weekly servicing. If recorder failure occurred at month end, these totalizer values were prorated to the missing days on the basis of apparent windiness during the same days at the nearest functioning wind recorder.

Table 11 WIND (continued)

Year	Month	Station F-15-028 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	Dir.	≥30 M.P.H. Hrs.	Dir.	Station F-50-050 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	Dir.	≥30 M.P.H. Hrs.	Dir.	Station F-75-070 Total Miles of Wind	Fastest Hour Speed in M.P.H.	Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	Dir.	≥30 M.P.H. Hrs.	Dir.
1964	Jan.								3,290*							3,500*						
	Feb.								3,480*							3,510*						
	Mar.								4,770*							5,080*						
	Apr.								4,470*							5,730*						
	May								4,840*							5,890*						
	Jun.															4,890*						
	Jul.								4,090*													
	Aug.								3,780*	26	SW	17	SW	0	521**							
	Sept.								3,132	21	SW	8	SW	0	31**							
	Oct.								3,541	22	SW	19	SW	0		3,600	32		7		1	612**
	Nov.								3,192	20	N	14	N	0		3,297	26		16		0	
	Dec.								3,051	16	N	6	N	0		3,170	22		18		0	
	Annual																					
1965	Jan.								2,573	24	S	13	N	0		2,550	23	SW	11	SW	0	
	Feb.								3,104	31	N	27	N	2	N	2,859	20	N	15	N	0	
	Mar.								3,290	23	SW	14	W	0		4,256	26	SW	55	W	0	
	Apr.								3,780	16	SW	3	SW	0	25**	4,660	19	SW	48	SW	0	
	May								4,100	20	W	35	N	0	47**	5,420	25	W	85	W	0	
	Jun.								3,689	19	W	28	W	0	9**	5,131	28	W	96	W	0	
	Jul.								3,303	22	SW	18	SW	0		3,853	22	W	40	W	0	33**
	Aug.								3,671	17	N	6	N	0	160**	3,346	19	W	14	W	0	223**
	Sept.								2,976	20	W	15	SW	0		3,790	23	W	28	W	0	157**
	Oct.								2,800	21	N	16	N	0	126**	3,052	19	N	19	W	0	80**
	Nov.								2,673	19	S	7	S	0	58**	2,692	21	S	5	S	0	83**
	Dec.								2,674	25	S	11	SW	0		2,704	23	W	15	W	0	92**
	Annual								38,633	31	N	193	N	2	N	44,313	28	W	431	W	0	
1966	Jan.								2,447	21	S	9	S	0	69**	2,581	25	SW	12	SW	0	
	Feb.								2,821	22	N	16	N	0		2,714	21	N	8	N	0	
	Mar.								3,401	22	NW	6	N	0	75**	3,139	16	W	2	W	0	215**
	Apr.								3,752	29	SW	17	SW	0	184**	3,661	32	W	17	W	3	W 50**
	May								5,149	22	SW	109	SW	0	71**	5,514	26	W	123	W	0	84**
	Jun.								4,411	19	SW	42	N	0		4,273	23	W	38	W	0	
	Jul.								3,802	17	SW	9	W	0	133**	3,596	16	W	10	W	0	
	Aug.								3,584	18	SW	9	SW	0	59**	3,404	18	W	9	W	0	
	Sept.								3,744	20	N	25	SW	0		3,608	22	W	24	W	0	
	Oct.								3,269	26	N	30	SW	0		3,289	26	W	19	W	0	
	Nov.								3,219	19	SW	14	SW	0		3,151	20	SW	14	SW	0	
	Dec.								3,025	20	N	6	N	0	194**	2,806	37	SW	23	SW	5	SW
	Annual								42,624	29	SW	292	SW	0		41,736	37	SW	299	W	8	SW
1967	Jan.								3,101	26	S	25	S	0	34**	3,288	33	S	32	S	1	S
	Feb.								2,106	19	N	10	N	0	26**	2,356	26	W	8	W	0	
	Mar.								3,299	23	SW	33	SW	0		3,739	29	W	35	W	0	
	Apr.								2,584	14	SW	0		0	18**	3,398	17	W	3	W	0	
	May								2,888	14	W	0		0		3,964	23	W	21	W	0	
	Jun.								3,589	19	W	17	W	0		4,739	25	W	63	W	0	141**
	Jul.								3,208	18	W	8	W	0	51**	3,600	20	W	21	W	0	72**
	Aug.								2,728	15	W	1	W	0	145**	3,179	17	W	6	W	0	108**
	Sept.	1,299	22	SW	12	SW	0	467**	2,515	21	W	9	W	0	81**	2,842	25	W	18	W	0	79**
	Oct.	2,336	22	N	18	N	0	72**	2,700	20	N	8	N	0	104**	2,911	19	W	9	W	0	
	Nov.	1,613	19	W	1	W	0		2,084	18	W	1	W	0		2,206	20	W	6	W	0	
	Dec.	2,167	21	N	21	W	0	6**	2,811	26	N	28	N	0		2,911	21	NW	17	N	0	
	Annual								33,613	26	S	140	N	0		39,133	33	S	239	W	1	S
1968	Jan.	2,257	17	SW	7	SW	0		2,341	18	W	7	W	0		2,556	19	W	6	W	0	
	Feb.	1,622	9	N	0		0		1,615	9	N	0		0		1,946	12	W	0		0	
	Mar.	3,388	21	SW	14	SW	0		3,318	22	W	13	N	0		3,655	31	W	11	W	1	W 402**
	Apr.	4,715	22	N	53	N	0	68**	4,395	26	N	55	W	0	168**	4,636	28	W	69	W	0	
	May	4,794	20	N	39	SW	0		4,371	21	N	51	N	0		4,931	23	W	69	W	0	

* Estimated from weekly totalizer readings prior to recorder installation.

** Hours of missing record is 6 hours or more. During missing record, wind direction, speed and duration were not recorded; however, total miles of wind were indicate by totalizer on anemometer.

Annual total miles of wind are reported in Table 11 whenever the full 12 months of data is available. All values of total miles of wind reported in Table 11 except those before recorders were installed are considered accurate to within 5 percent.

Accuracy of wind speed data during the fastest hour, and accuracy of the number of hours when wind speed exceeded 15 or 30 miles per hour, depend upon the accuracies of the wind recorder and anemometer. We have seen that gradual loss of battery power affected the accuracy of the wind recorder in ways difficult to evaluate. The records were discarded if indications of malfunctioning were apparent. Despite the loss of many hours of record, however, wind speed and duration records are considered accurate to within 5 percent.

Anemometers themselves were standard three-cup instruments of the type used by the U. S. Weather Bureau. They were placed at the prescribed height of six feet, seven inches (two meters) and were serviced weekly. Thus, although the accuracy is not precisely known, data

Table 11 WIND (continued)

Year	Month	Station 0-15-060						
		Total Miles of Wind	Fastest Hour Speed in M.P.H.	Dir.	No. Hrs. Wind Speed Was ≥15 M.P.H. Hrs.	Dir.	≥30 M.P.H. Hrs.	Dir.
1964	Jan.	2,940*						
	Feb.	3,040*						
	Mar.	4,180*						
	Apr.	4,140*						
	May	4,220*						
	Jun.	4,500*						
	Jul.	4,220*						
	Aug.	3,840*						
	Sept.	3,420*						
	Oct.	3,290*	19		4		0	442**
	Nov.	3,111	20		18		0	
	Dec.	2,870	18		6		0	
	Annual	43,771						
1965	Jan.	2,668	18	NW	6	N	0	
	Feb.	3,527	24	N	67	N	0	
	Mar.	3,416	25	SW	8	SW	0	
	Apr.	3,976	23	N	33	N	0	
	May	4,825	24	N	84	N	0	
	Jun.	3,969	22	W	21	N	0	
	Jul.	3,644	16	N	9	N	0	
	Aug.	3,942	24	N	14	N	0	70**
	Sept.	3,341	21	N	16	N	0	
	Oct.	3,134	23	N	22	N	0	
	Nov.	2,664	15	N	3	N	0	
	Dec.	2,493	20	SW	12	SW	0	
	Annual	41,599	25	SW	295	N	0	
1966	Jan.	2,431	19	SW	8	SW	0	6**
	Feb.	2,899	22	N	16	N	0	
	Mar.	3,240	19	N	26	N	0	
	Apr.	3,506	20	N	25	N	0	
	May	3,788	16	SW	9	SW	0	
	Jun.	4,084	20	N	39	N	0	
	Jul.	3,775	17	N	11	N	0	
	Aug.	3,721	16	N	3	N	0	
	Sept.	3,185	17	N	7	N	0	
	Oct.	2,933	22	N	11	N	0	
	Nov.	2,556	18	SW	8	SW	0	
	Dec.	2,252	16	N	4	N	0	
	Annual	38,370	22	N	167	N	0	
1967	Jan.	2,996	21	S	28	S	0	
	Feb.	2,104	16	N	7	N	0	
	Mar.	3,508	22	SW	18	SW	0	
	Apr.	2,903	13	SW	0		0	112**
	May	3,531	17	N	12	N	0	157**
	Jun.	3,799	15	N	1	N	0	
	Jul.	3,707	16	N	8	N	0	
	Aug.	3,493	14	N	0		0	272**
	Sept.	3,223	22	SW	8	SW	0	71**
	Oct.	3,372	20	N	39	N	0	
	Nov.	2,240	17	SW	2	SW	0	
	Dec.	2,813	23	N	25	N	0	
	Annual	37,689	23	N	148	N	0	
1968	Jan.	2,615	16	N	3	W	0	
	Feb.	2,082	17	N	4	N	0	
	Mar.	3,470	20	N	29	N	0	
	Apr.	4,526	23	N	73	N	0	17**
	May	4,525	22	N	46	N	0	14**

* Estimated from weekly totalizer readings prior to recorder installation.
**Partial wind record. Whenever six or more hours of record are missing, the number of missing hours appears in the right-hand column for each station. These hours apply only to wind speed, direction and duration.

from the 10 stations measuring wind speed and duration are comparable.

An undetermined error is inherent in anemometer records due to instrument inertia and friction. These detract from gust velocities and increase the threshold of instrument response. The effects are more pronounced at near threshold velocities but they also affect the high velocity response of the instrument. Monthly wind speed values were read over full hour periods as they were taken from the wind recorder charts. Annual wind speed for the fastest hour is the extreme value picked from the monthly values. Annual number of hours the wind speed exceeded 15 and 30 miles per hour is the sum of the monthly hours.

The study area is at least as windy as any established citrus area in California. It may be windier. Indeed, wind in the study area will cause considerably more damage to fruit set and fruit quality than it causes in the established citrus areas on the east side of the San Joaquin Valley. Wind velocities recorded have been strong enough to scar fruit as well as to interfere with proper set, and in some cases to blow the fruit from the trees.

Although scarring of fruit from friction resulting from continuous, low-velocity winds might somewhat reduce the quality of top table grapes, the existing data indicate wind speeds tolerable to raisin and wine grapes. Few recorded velocities exceed 30 miles an hour. The need for wind protection for vegetable crops planted in the windier areas depends upon the particular vegetable crop grown and the portion of that crop marketed and consumed.

In general, wind intensity and consistent wind flow are major climatic factors throughout the study area. The windiest areas are associated with the lower-elevation mountain passes to the west and south.

Wind hazard to agriculture is greatest along Transect E. Of all transects, E is the windiest because it lies along the relatively narrow Antelope Valley and parallel to the wind flow through the low passes near the north end of the Temblor Range. In this transect, citrus orchards, and probably deciduous orchards and vineyards as well, would benefit from windbreaks. These, however, should be planted so as not to interfere with natural air drainage during radiation frosts. The navel orange may suffer particularly from wind hazard.

Transect F, like Transect E, contains

more than one anemometer and traverses a natural wind flow channel through the foothills. Because of their location in such channels, the anemometers measured greater wind velocity and duration than did those placed at the lower elevations on the broad, flat plains where the winds have fanned out from the mountain passes and dissipated. Wind measurements in Transects A, D, F, and G are similar to one another and are less than those of Transect E. Wind measurements in Transect B, the least windy transect, are about half those of Transect E.

Soil Temperature. Thermographs placed at five major stations measured soil temperatures at depths of four inches and twenty inches. Prior to their installation, they were calibrated against a standard laboratory thermometer in water at various temperatures.

Performance of these instruments was affected by several problems. Corrosion and gas leakage of the sensing elements caused drifting in instrument accuracy. Clock stoppage caused loss of time-related data although maximum and minimum values were still obtained. Nevertheless, the reported individual soil temperatures (Table 12) are considered accurate to within two degrees Fahrenheit; and the average temperatures, to within one degree Fahrenheit. Data collected during periods of erratic thermograph performance are not reported.

Accuracy of the soil thermograph measurements was verified by use of thermometers. These were read weekly as the thermograph was serviced. At the four-inch depth a thermometer was inserted into a small vial containing an inch of water which was located close to the thermograph sensing element. Readings from this thermometer, written onto the thermograph chart, served to check the four-inch temperature value on the chart at that moment. At the 20-inch depth a Kimball Soil Tube Thermometer was used. This instrument consisted of a laboratory thermometer inserted through the cap of a small water filled vial which surrounded the bulb. A string was tied about the upper end of the thermometer, and thermometer and vial were lowered through a vertical plastic tube, one inch in diameter, to a depth of 20 inches where the vial rested on the soil. The upper end of the string was fastened to a rubber stopper which plugged the top of the tube. Aluminum foil, covering the stopper, minimized radiation effects and heat exchange between the air above the tube and that inside it. Once weekly, as the station was serviced, the operator removed the stopper, lifted the thermometer and vial by the string and took a reading. The water vial, by serving as a heat storage reservoir, prevented rapid changes in the reading as the thermometer was removed from the soil tube. These readings also were written onto the thermograph chart and served as a "spot" check for the thermograph 20-inch readings.

Table 12 reports monthly maximum and minimum thermograph soil temperatures for which no more than five days are missing or for which the maximum or minimum temperatures obviously did not occur during the days of missing record. Table 12 also reports monthly average high and low thermograph temperatures for which no more than five days of record are missing; these averages are the sum of the daily highs or lows divided by the number of days of record in the month. In addition, Table 12 reports annual maximum and minimum thermograph soil temperatures whenever these obviously did not occur during periods of missing record. And finally, Table 12 reports the annual average high and low thermograph soil temperature. These are the sums of the daily highs or lows divided by the number of days of data. If more than 20 days of data are missing, no annual average high or low appears.

Table 12 SOIL TEMPERATURE, in degrees Fahrenheit

Year	Month	Station																																				
		A-25-122 At 20 Inches, Spot Reading	A-45-158 At 20 Inches, Spot Reading	B-20-040 At 20 Inches, Spot Reading	B-35-070														B-55-110 At 20 Inches, Spot Reading	C-20-040 At 20 Inches, Spot Reading	C-40-070																C-60-108 At 20 Inches, Spot Reading
					At 4 inches				At 20 Inches				Spot Reading								At 4 inches				At 20 inches				Spot Reading								
					Thermograph				Thermograph												Thermograph				Thermograph												
					High		Low		High		Low										High		Low		High		Low										
					Max	Av	Min	Av	Max	Av	Min	Av									Max	Av	Min	Av	Max	Av	Min	Av									
1963	Sep.				97	89															103	89															
	Oct.			77	90	75	60	68	88	78	69	76	77	76					75		91	76	60	69	85	77	71	76	76								77
	Nov.			64	70	60	46	55	72	65	57	64	62	60					64		70	61	44	55	72	66	59	65	64								64
	Dec.			53					57	53	50	52	51	49					53		54	47	38	44	59	55	52	54	54								54
1964	Jan.	48	50	50					53	52	48	50	49	47					50		56	49	58	44	54	53	50	52	51								52
	Feb.	52	52	53	67	58	44	47	59	55	48	53	54	51					52		64	57	44	48	59	55	52	55	53								54
	Mar.	57	57	58	82	67	44	55	69	61	54	59	60	59					56		76	65	45	54	65	60	56	59	58								60
	Apr.	69	66	66	92	80	55	66	78	72	62	70*	70	70					64		87	76	52	63	73	68	62	67	65								69
	May	78	74	72	98	89	56	73	84	79	68	77	78	79					70		93		54		77		66		71								76
	Jun.	89	86	81	112	101	76	85	96	89	82	87	88	90					78		104	94	70	79	86	81	76	80	78								84
	Jul.	96	94	87	114	108	86	92	100	97	91	95	95	98					84																		90
	Aug.	96	93	89	110	106	84	91	100	97	92	96	95	98					86																		91
	Sep.	87	86	83	99	94	72	80	92	89	84	87	88	89					79		99	88	66	75	86	83	79	81	80								84
	Oct.	81	82	78									82	83					76		90	80	58	71	82	79	72	77	76								80
	Nov.	62	64	64									63	61					62		68	58	41	52	72	65	58	64	62								64
	Dec.	55	57	58	65	55	40	50	62	57	52	56	58	56					56		64	55	42	51	63	60	56	59	57								58
	Annual	72	72	70	114				100		48		73	73					68				41				50		69								72
1965	Jan.	51	52	54	60	51	41	47	57	53	50	52*	53	50					53		60	52	40	47	58	56	54	55	54								55
	Feb.	52	52	54	67	58	44	50	62	55	50	54	54	52					52		66	58	43	50	60	57	54	56	54								56
	Mar.	59	59	60	79	70	50	59	69	62	58	60	63	61					59		75	67	51	57	67	63	58	62	60								63
	Apr.	63	62	63	97	75	49	64	84	68	56	67	66	64					62		90	71	46	60	77	66	57	64	64								64
	May	80	78	75	105	93	69	78	90	83	76	82	81	82					72		96	86	63	73	83	77	71	76	75								78
	Jun.	89	87	81	106	100	76	84	92	89	84	87	88	91					79		98	93	72	78	85	82	78	81	81								85
	Jul.	95	94	88	111	107	87	91	98	96	91	94	95	98					85		104	100	78	86	90	88	83	87	87								91
	Aug.	91	89	88					100	96	89	94	95	97					85		102	97	79	83	90	88	85	87*	87								89
	Sep.	85	85	83	96	88	70	77	95	89	82	87	88	89					80		93	87	68	75	88	83	78	82	82								83
	Oct.	77	78	76	87	80	62	69	84	81	76	79	80	79					74		86	80	62	69	80	76	74	76*	76								77
	Nov.	67	68	67	75	65	49	59*	78	69	58	68	69	66					66										69								68
	Dec.	52	53	54	57	50	41	48	58	53	47	52	53	50					52										54								53
	Annual	72	71	70	111	79	41	68	100	74	47	73	74	73					68		104				90				70								72
1966	Jan.	50	50	51					55	52	49		52	49					49		57	52	40	47	53	51	49	50*	51								51
	Feb.	51	51	52					60		49		54	52					50		60	56	42	48	57	54	50	53*	53								52
	Mar.	61	58	60	85	70	46	59	72	63	53	62	64	62					59		82	68	41	56	68	61	53	60	61								60
	Apr.	75	74	72	93	87	66	72	82	77	72	76	77	79					68		91	83	63	69	77	73	68	72*	73								73
	May	83	82	80	105	96	72	79	91	85	78	84	84	86					76		103	94	71	78	85	81	75	76	80								83
	Jun.	87	86	86	111	104	76	86	96	91	84	90	92	95					82		109	101	74	83	92	86	80	84	85								89
	Jul.	93	93	90	112	107	85	90	100	96	92	95	96	99					84		109	105	82	87	94	90	86	88	89								93
	Aug.	95	95	93	112	107	80	91	101	98	92	97*	97	101					88		109	104	78	89	95	93	88	90	91								95
	Sep.	88	89	87	104	95	74	80	95	90	85	89*	89	92					82		103	92	71	78	90	86	81	84	85								89
	Oct.	77	78	78	89	81	61	68	86	80	74	79	79	79					74		89	79	60	68	83	80	72	78	77								79
	Nov.	67	68	67	79	67	47	57	76	69	62	68	68	66					63		76	64	45	57	75	70	63	68	68								68
	Dec.	56	58	59	65	52	39	48	66	58	51	58	57	55					56		62	50	38	47	64	58	50	57	58								58
	Annual	74	74	73	112	82		69	101	76	49	75	76	76					69		109	79	38	67	95	74	49	72	73								74
1967	Jan.	51	53	54	68	54	38	45	58	54	49	53	53	51					50		55	50	36	44	56	53	48	52*	52								52
	Feb.	54	56	56	70	60	46	51	62	58	56	57	58	56					52		63	55	43	48	59	56	54	55	55								55
	Mar.	61	61	62	78	71	50	59	70	66	60	65	64	65					58		77	67	47	57	68	63	58	62*	62								61
	Apr.	60	59	61	74	68	49	55	67	64	60	63	62	62					58		73	65	47	54	66	63	60	62*	62								62
	May	73	70	73	107	91	57	75	91	80	64	79	77	78					70		106	91	58	76	87	78	64	76	75								75
	Jun.	86	82	83	113	101	72	83	96	87	80	86	87	90					78		113	101	72	82	91	85	79	83	84								88
	Jul.	96	93	92	115	111	92	95	100	98	96	97	98	103					88		113	109	90	93	94	93	89	91	92								95
	Aug.	97	94	93	113	110	92	94	101	99	96	98	99	102					90						95	94	90	92	94								97
	Sep.	89	87	89	105	99	78	86	98	92	87	91	92	93					85		107	97	68	83	93	90	85	88*	89								90
	Oct.	80	79	80	93	85	66	73	97	83	77	82*	82	83					77		90	81	63	70	88	81	74	80	81								81
	Nov.	70	70	70	85	70	49	63	78	72	61	71	70	69					68		75	66	47	60	76	72	63	70	70								71
	Dec.	52	54	55	56	50	38	44	61	54	48	53*	53	50					54		52	47	36	42	63	57	52	56	56								56
	Annual	72	72	72	115	81	38	69	101	76	48	75	75	75					69		113	78	36	66	95	74	48	72	73								74
1968	Jan.	51	51	52	58	50	40	45	56	53	48	52	52	50					52		56	50	38	45	58	55	52	55	54								54
	Feb.	57	57	58	74	62	42	55	66	60	51	59	60	58					57		69	60	44	55	66	60	54	60*	60								60
	Mar.	61	61	63	84		52				60		64	64					61		84	69	51	58	72	66	62	65	64								62
	Apr.	73	71	72	95	84	60	68	84	76	68	74*	74	76					68		96	82	57	67	80	74	67	72	72								71
	May	82	79	79	104	94	68	77	90	84	78	83	83	86					76		104	94	68	76	86	81	76	80	80								82

* Partial record this month.

Kimball Soil Tube Thermometers were installed at all major stations except D-05-028. Readings were lost on rare occasions when small animals pulled the thermometer from the soil tube. Table 12 records Kimball thermometer temperatures as "spot" readings. Monthly spot readings reported in Table 12 are the average of the weekly readings. If one or more weekly readings were missing, the monthly value is omitted. Annual spot readings, the average of monthly

Table 12 SOIL TEMPERATURE, in degrees Fahrenheit (Continued)

| Year | Month | Station | | |

Table 12. SOIL TEMPERATURE, in degrees Fahrenheit (Continued)

Year	Month	Station G-15-060								
		At 4 inches				At 20 inches				Spot Reading
		Thermograph				Thermograph				
		High		Low		High		Low		
		Max	Av	Min	Av	Max	Av	Min	Av	
1963	Sep.									
	Oct.	88	75	64	72	84	77	70	76	76
	Nov.	68	61	52	59	72	66	59	65	66
	Dec.	54	48	44	47	60	56	52	55*	55
1964	Jan.					55	54	50	53	52
	Feb.					58	55	52	54	54
	Mar.					63	59	56	58	58
	Apr.					70	66	59	65	66
	May					77	73	67	72	73
	Jun									81
	Jul.									87
	Aug.									89
	Sep.									83
	Oct.									79
	Nov.									64
	Dec.									58
	Annual									70
1965	Jan.									55
	Feb.									56
	Mar.	75	67	50	57	67	63	60	62*	61
	Apr.	90	71	49	61	74	66	59	64	64
	May	94	85	61	71	80	75	70	74	73
	Jun.	98	93	72	78	84	81	77	79*	81
	Jul.	103	99	80	85	89	87	82	85	86
	Aug.	105	99	78	86	89	88	84	86	88
	Sep.	94	87	66	75	88	84	78	82	82
	Oct.	84	79	62	67	80	78	73	76	77
	Nov.	74	62	48	57	76	69	59	68*	66
	Dec.									52
	Annual	105				89				70
1966	Jan.									50
	Feb.									52
	Mar.									58
	Apr.	91	80	58	64	72	68	61	67	68
	May	104	93	68	71	83	77	70	75*	77
	Jun.	111	103	68	77	87	83	78	81	82
	Jul.	112	107	75	81	90	88	84	86	87
	Aug.	112	108	75	83	91	90	86	88*	90
	Sep.	105	96	67	73	88	86	81	84*	84
	Oct.	93	83	56	64	85	79	72	77	77
	Nov.	79		41		75		63		66
	Dec.	62		37		63	57	50	56*	57
	Annual	112				91				71
1967	Jan.	58	52	36	43	54	51	48	50	51
	Feb.	65	55	42	47	57	54	52	53*	55
	Mar.	67	62	43	51					59
	Apr.	74	64	46	53	63		59		60
	May	98	86	55	71	79	72	60	71	72
	Jun.	107	94	70	79	87	80	74	79	81
	Jul.	109	106	85	89	91	89	86	88	91
	Aug.	108	105	87	89	92	91	89	90	92
	Sep.	108	96	79	84	90	88	84	86	88
	Oct.	94	82	63	69	85	79	74	78	79
	Nov.	76	68	48	61	75	70	62	69	70
	Dec.	56		39		62		51		56
	Annual	109	80	36	68	92		48		71
1968	Jan.	58	52	39	46	55	53	50	52	53
	Feb.	70	61	46	55	63	58	52	56	58
	Mar.	78	67	53	57	66	61	58	60	62
	Apr.	90	78	56	66	73	68	62	67	69
	May.	100	91	68	75	80	76	72	75	78

* Partial record this month

Table 13: RELATIVE HUMIDITY

Year	Month	Station											
		A-25-122						A-45-158					
		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%	
		Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days
1963	Jan.												
	Feb.							0	0	0	0	34	6*
	Mar.	0	0	25	4	326	30	0	0	20	3	235	22
	Apr.	0	0	0	0	432	30	0	0	0	0	537	30
	May	0	0	12	2	118	20	0	0	0	0	188	25*
	Jun.	0	0	135	19	14	3	1	1	147	22	14	2*
	Jul.	0	0	111	15	0	0	0	0	232	21	0	0
	Aug.	0	0	221	18	0	0*	2	1	332	22	0	0
	Sept.	0	0	47	5	97	15*	0	0	55	4	53	5*
	Oct.	0	0	2	1	245	23	0	0	3	1	274	22
	Nov.	0	0	1	1	458	30	0	0	5	3	400	29
	Dec.	1	1	24	5	617	30	0	0	39	6	530	29
	Annual												
1964	Jan.	0	0	11	2	489	30	0	0	6	4	437	31
	Feb.	6	1	134	15	158	18	7	3	94	11	113	13
	Mar.	13	2	60	7	215	24	16	3	72	9	240	22
	Apr.	8	3	166	20	59	11	10	3	173	21	86	11
	May	2	2	198	20	45	9	7	5	206	22	55	10
	Jun.	6	1	333	26	11	3	54	7	350	24	21	6
	Jul.	4	1	519	31	0	0	21	4	468	31	0	0
	Aug.	0	0	374	28	9	1	15	4	436	27	13	2
	Sept.	0	0	289	22	23	5	33	4	358	23	24	6
	Oct.	2	1	201	20	111	12	4	1	208	17	101	12
	Nov.	0	0	1	1	473	30	14	3	42	8	282	27
	Dec.	0	0	0	0	571	30	0	0	13	5	434	30
	Annual	41	11	2286	192	2164	173	181	37	2426	202	1806	170
1965	Jan.	0	0	1	1	629	31	0	0	5	2	528	31
	Feb.	0	0	13	4	346	28	0	0	21	6	243	22
	Mar.	0	0	52	4	386	29	9	3	61	5	347	24
	Apr.	28	5	63	5	327	23	9	3	91	6	319	21
	May	47	13	445	28	1	1	82	9	397	27	12	3
	Jun.	0	0	174	24	2	1	0	0	147	16	28	3
	Jul.	13	4	435	26	18	2	34	6	471	27	24	3
	Aug.	10	2	221	21	19	6	9	3	330	22	37	5
	Sept.	11	1	254	22	15	4	17	2	297	21	25	5
	Oct.	33	7	324	21	54	9	33	3	323	21	17	5
	Nov.	0	0	32	5	257	23	2	1	49	3	250	18
	Dec.	0	0	7	3	436	24*	0	0	8	3	511	29
	Annual	142	32	2021	164	2490	181*	195	30	2200	159	2341	169
1966	Jan.	0	0	39	5	497	27	0	0	4	1	420	25
	Feb.	1	1	42	3	408	27	1	1	42	3	287	23
	Mar.	40	3	89	10	211	23	8	3	63	5	131	19
	Apr.	57	7	290	22	42	12	55	8	326	20	28	8
	May	38	5	332	24	22	7	0	0	222	14	23	3*
	Jun.	60	7	407	25	4	1	18	3	476	26	0	0
	Jul.	5	4	397	28	10	2	71	8	463	26	0	0
	Aug.	95	11	551	30	0	0	53	7	465	26	1	1
	Sept.	5	1	194	22	33	7	0	0	148	13	32	5
	Oct.	85	9	298	18	40	8	85	8	309	18	49	5
	Nov.	32	3	103	8	343	24	4	1	103	7	252	20
	Dec.	0	0	7	1	611	31	0	0	0	0	537	29*
	Annual	418	51	2749	196	2221	169	295	39	2621	159	1760	138
1967	Jan.	0	0	20	5	359	31	0	0	32	3	266	25
	Feb.	12	2	32	3	409	28	8	1	25	2	337	23
	Mar.	0	0	14	5	181	21	0	0	6	3	145	16
	Apr.	0	0	0	0	380	30	0	0	0	0	393	29
	May	12	2	244	18	66	9	0	0	161	15	59	9
	Jun.	0	0	300	25	25	6	4	1	271	23	9	3
	Jul.	43	10	643	31	0	0	34	6	625	31	0	0
	Aug.	55	9	583	30	0	0	80	12	675	31	0	0
	Sept.	21	5	243	21	30	6	21	5	175	13	20	3
	Oct.	50	6	311	23	16	3	56	6	332	23	5	2
	Nov.	12	3	105	10	306	22	0	0	138	9	286	19
	Dec.	0	0	15	7	422	30	0	0	10	3	263	24*
	Annual	205	37	2510	178	2194	186	203	31	2450	156	1783	153
1968	Jan.	35	3	60	5	402	27	0	0	44	5	310	22
	Feb.	8	1	34	4	495	29	0	0	19	2	486	29
	Mar.	15	4	127	18	110	19	3	2	31	6	110	16
	Apr.	114	12	383	26	44	5	108	15	420	25	32	4
	May	21	4	354	25	31	4	8	4	354	25	25	5

*Partial record this month.

it sometimes took place in a few days, generally required most of the month. For this reason, the average of four or five spot readings from the Kimball Soil Tube Thermometer usually closely approximates an average of daily readings.

Humidity: Relative humidity was measured at each major station with a hygrothermograph, an instrument which simultaneously records air temperature as well. The spring-wound, clock-operated hygrothermograph was adapted to a seven-day chart and was serviced weekly. The

Table 13: RELATIVE HUMIDITY (continued)

Year	Month	Station																							
		B-20-040						B-35-070						B-55-110						C-20-040					
		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%	
		Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days
1963	Jan.																								
	Feb.																								
	Mar.																			0	0	7	3	171	21*
	Apr.	0	0	2	1	152	14*	0	0	1	1	114	14*	0	0	0	0	160	15	0	0	13	4	279	30
	May	0	0	26	5	200	28	0	0	20	4	58	16	0	0	32	3	118	21	0	0	15	4	205	27
	Jun.	3	1	214	26	15	5	0	0	262	26	7	1	0	0	218	24	11	2	2	1	250	27	30	7
	Jul.	0	0	293	29	2	3	0	0	332	27	0	0	0	0	282	27	0	0	0	0	202	26	7	3
	Aug.	0	0	299	30	1	1	2	1	438	29	0	0*	0	0	270	25	0	0*	1	1	209	26	8	4
	Sept.	0	0	144	21	97	14	4	2	103	16	41	7	4	1	134	16	23	4	1	1	133	21	69	10
	Oct.	0	0	37	7	288	28	0	0	18	4	278	25	0	0	19	3	290	20	0	0	31	6	253	26
	Nov.	0	0	0	0	510	30	0	0	0	0	406	29	0	0	1	1	473	30	0	0	0	0	479	30
	Dec.	0	0	0	0	651	29*	0	0	0	0	478	22*	0	0	2	2	646	31*	0	0	3	1	710	31
	Annual																								
1964	Jan.	0	0	0	0	587	31	0	0	1	1	585	31	0	0	0	0	568	31	0	0	3	1	599	31
	Feb.	9	2	75	14	256	25	8	2	69	12	286	26	0	0	38	11	209	23	2	1	50	10	321	28
	Mar.	6	2	75	13	183	24*	11	2	122	17	202	23*	5	1	80	13	113	20	0	0	78	14	225	26
	Apr.	0	0	159	22	103	22	4	1	246	26	50	11	2	1	197	24	32	8	12	4	193	23	49	14
	May	1	1	208	22	54	11	6	2	264	27	25	6	2	1	255	26	8	3	15	4	252	23	25	6
	Jun.	52	8	343	27	2	1	39	7	419	29	4	2	18	4	388	28	3	1	27	7	320	27	0	0
	Jul.	63	9	481	31	0	0	95	10	638	31	0	0	141	12	650	30	0	0	14	3	444	31	0	0
	Aug.	28	8	424	30	9	2	46	10	630	30	8	1	5	3	616	30	7	1	4	1	335	30	19	2
	Sept.	44	7	276	26	47	10	20	3	293	23	22	5	13	4	329	24	12	3	31	9	261	25	41	7
	Oct.	3	1	112	14	159	18	0	0	92	14	119	12	2	1	243	19	98	8	8	2	171	22	116	12
	Nov.	0	0	6	2	466	30	0	0	6	2	451	30	0	0	0	0	395	30	0	0	1	1	452	30
	Dec.	0	0	0	0	581	31	0	0	0	0	536	31	0	0	0	0	484	31	0	0	0	0	571	31
	Annual	206	38	2159	201	2447	205	229	37	2780	212	2288	178	188	27	2796	205	1929	159	113	31	2108	109	1199	82
1965	Jan.	0	0	0	0	676	31	0	0	1	1	613	31	0	0	0	0	624	31	0	0	0	0	634	31
	Feb.	0	0	17	6	438	28	0	0	21	8	402	28	0	0	1	1	377	27	0	0	19	6	389	28
	Mar.	0	0	31	4	414	30	0	0	41	7	360	29	0	0	27	6	350	28	0	0	39	6	400	30
	Apr.	32	5	84	6	366	26	35	5	96	7	285	25	16	3	102	7	237	24	2	1	68	7	337	26
	May	45	13	371	30	5	2	42	11	464	29	0	0	2	1	449	29	0	0	11	4	351	29	5	2
	Jun.	3	2	217	26	16	8	0	0	213	24	0	0	0	0	181	23	0	0	0	0	169	23	17	4
	Jul.	20	6	320	27	13	4	30	7	524	31	3	1	0	0	476	28	0	0	3	1	316	29	20	3
	Aug.	13	4	306	29	4	3	105	14	573	31	0	0	2	1	429	30	0	0	49	9	308	28	2	1
	Sept.	3	1	135	19	52	15	37	7	326	24	6	3	0	0	169	18	7	3	8	3	196	22	35	9
	Oct.	24	7	205	25	89	20	36	7	334	25	28	6							12	2	46	4	0	0*
	Nov.	0	0	11	2	440	29	0	0	8	3	375	27												
	Dec.	0	0	0	0	653	31	0	0	0	0	641	31												
	Annual	140	38	1697	174	3166	227	285	51	2601	190	2713	181												
1966	Jan.	0	0	3	1	560	31	0	0	8	2	518	30	0	0	0	0	452	25*	0	0	5	1	356	23*
	Feb.	0	0	7	1	459	28	0	0	6	1	444	28	0	0	0	0	416	27	0	0	6	1	467	28
	Mar.	15	2	59	11	293	30	14	2	58	8	254	28	1	1	27	5	186	24	5	1	55	13	289	31
	Apr.	32	6	202	22	128	25	60	12	289	23	58	13	35	8	278	21	33	12	61	10	235	23	124	19
	May	35	8	268	28	42	12	78	12	367	27	29	7	15	3	333	25	16	5	77	14	280	26	61	13
	Jun.	57	11	344	29	12	6	73	12	409	29	8	2	71	9	486	30	7	2	101	19	419	30	18	4
	Jul.	133	18	375	28	9	6*	202	21	544	30	12	2	142	18	497	29	0	0*	127	21	387	29	17	3
	Aug.	139	21	442	31	3	1	169	15	581	30	3	1	141	12	580	29	2	1*	119	20	471	31	3	1
	Sept.	20	4	145	17	87	18	8	3	154	17	56	10	6	1	192	21	23	4	27	5	166	21	81	17
	Oct.	8	2	126	16	102	20	8	2	198	17	83	13	81	7	248	18	38	6	18	5	178	20	120	19
	Nov.	0	0	53	10	392	26	9	3	65	5	376	25	9	3	80	5	352	24	2	1	32	8	421	26
	Dec.	0	0	0	0	203	10*	0	0	0	0	623	31	0	0	0	0	672	31	0	0	0	0	665	31
	Annual	439	72	2024	194	2290	213	621	82	2679	189	2464	190	501	62	2722	183	2197	161	537	96	2234	203	2622	215
1967	Jan.							4	1	17	2	454	31	0	0	3	1	382	30	0	0	4	1	562	31
	Feb.	1	1	7	1	81	8*	4	1	24	5	318	23	3	1	11	4	355	26*	0	0	0	0	500	28
	Mar.	0	0	8	2	176	26	0	0	25	7	182	26	0	0	23	6	148	23	0	0	37	9	298	31
	Apr.	0	0	0	0	341	30	0	0	6	2	334	30	0	0	0	0	369	30	0	0	0	0	380	30
	May	10	2	159	23	32	7	16	4	221	25	25	9	21	6	232	21	36	9	44	10	213	22	67	12
	Jun.	0	0	212	24	4	2	64	10	359	26	33	7	2	1	359	27	26	5	73	14	296	24	66	10
	Jul.	68	12	397	31	0	0	162	24	620	29	0	0*	176	23	689	31	0	0	154	24	548	31	0	0
	Aug.	39	10	367	31	0	0	106	21	612	31	1	1	64	11	614	31	0	0	86	18	511	31	0	0
	Sept.	28	6	228	28	22	3	48	8	381	29	24	4	3	1	250	22	20	3*	18	4	236	26	29	6
	Oct.	17	4	176	22	39	9	10	2	209	23	30	4	6	1	176	19	18	4	19	4	201	27	46	7
	Nov.	0	0	19	5	336	25	0	0	47	7	326	24	0	0	49	6	326	21	0	0	33	5	369	26
	Dec.	0	0	0	0	506	31	0	0	0	0	491	31	0	0	0	0	415	31	0	0	4	1	506	31
	Annual	163	35	1573	167	1537	141	414	71	2521	186	2254	190	275	44	2406	168	2095	182	393	74	2083	177	2823	212
1968	Jan.	0	0	0	0	552	31	0	0	1	1	544	31	0	0	1	1	474	30*	0	0	0	0	553	31
	Feb.	0	0	3	1	512	29	1	1	4	1	549	29	2	1	4	1	566	29	0	0	0	0	554	29
	Mar.	0	0	27	8	238	28*	0	0	93	19	242	30	0	0	77	12	96	15	2	1	64	12	307	31
	Apr.	80	13	199	15	137	17	88	12	333	28	73	10	56	9	351	25	33	5	74	14	299	28	77	13
	May	64	11	333	28	10	3	64	11	383	29	23	4	27	4	397	29	20	3	24	7	266	28	43	8

*Partial record this month.

chart reported relative humidity ranges from 0 to 100 percent. A large U. S. Weather Bureau "Cotton region" instrument shelter housed each hygrothermograph. Shelter doors faced north.

The hygrothermograph mechanism for registering relative humidity is not highly precise. To check the instrument at each servicing of the hygrothermograph, the observer wrote the present relative humidity reading obtained from a portable, battery-operated psychrometer on the hygro-

Table 13: RELATIVE HUMIDITY (continued)

Year	Month	Station																					
		C-40-070						C-60-108						D-05-028						D-40-080			
		≤15%		≤30%		≥70%		≤15%		≤30%		≥70%		≤15%		≤30%		≥70%		≤15%		≤30%		≥70%	
		Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days
1963	Jan.																			0	0	2	2	380	24*
	Feb.																			0	0	6	1	515	28
	Mar.	0	0	3	1	259	24*	0	0	2	1	319	25*							0	0	3	2	267	28
	Apr.	0	0	6	1	297	29	0	0	0	0	337	29	0	0	0	0	21	5*	0	0	6	3	223	28
	May	0	0	49	8	109	19	0	0	44	6	143	19	0	0	22	5	67	11	0	0	34	9	77	14*
	Jun.	3	1	258	28	16	4	5	2	342	29	7	2	0	0	149	24	25	4	0	0	307	27	10	2
	Jul.	0	0	228	26	10	3	0	0	459	30	0	0	0	0	181	22	3	2	147	18	575	30	0	0*
	Aug.	0	0	298	28	1	1	7	1	376	28	0	0	0	0	100	19	11	3	47	13	617	31	0	0
	Sept.	0	0	157	24	49	8	0	0	70	11	30	6*	3	1	65	11	77	12*	3	1	226	24	6	2
	Oct.	0	0	22	5	251	25	0	0	22	5	175	23	13	3	60	7	204	20	0	0	22	5	168	21*
	Nov.	0	0	0	0	465	30	0	0	0	0	408	29	0	0	0	0	470	30	0	0	0	0	473	30
	Dec.	0	0	4	1	671	31	0	0	4	1	647	31	0	0	0	0	672	31*	0	0	2	1	479	27*
	Annual																			197	32	1800	135	2598	204
1964	Jan.	0	0	5	2	561	31	0	0	0	0	547	31	0	0	0	0	492	31*	0	0	0	0	376	24*
	Feb.	5	2	65	14	272	27	0	0	26	7	237	23	0	0	37	9	203	22	0	0	31	7	159	18*
	Mar.	0	0	92	16	209	24	6	1	151	16	109	18	0	0	133	17	74	13*	3	1	135	16	83	15
	Apr.	13	5	262	27	33	7	6	2	211	26	24	6	0	0	170	24	24	5	18	4	254	26	15	3
	May	19	5	302	24	19	6	11	3	302	23	12	4	30	9	307	26	0	0	52	12	356	25	6	2
	Jun.	71	12	396	28	0	0	52	8	387	27	2	1	125	15	433	29	0	0*	66	9	423	27	0	0
	Jul.	38	8	574	31	0	0	45	9	625	31	0	0	102	20	623	31	0	0	106	18	677	31	0	0
	Aug.	4	1	471	30	13	1	18	5	580	30	8	1	56	15	537	29	8	1	53	11	629	30	0	0
	Sept.	10	5	309	28	22	5	0	0	321	25	14	4	0	0	205	24	25	6	21	4	384	27	0	0
	Oct.	16	3	240	21	99	11	0	0	166	18	99	10	0	0	89	13	137	11	3	2	239	21	83	8
	Nov.	0	0	1	1	402	30	0	0	0	0	353	30	0	0	0	0	448	30	0	0	0	0	425	30
	Dec.	0	0	0	0	531	31	0	0	0	0	530	31	0	0	0	0	575	31	0	0	0	0	559	31
	Annual	176	41	2717	222	2161	173	138	28	2669	203	1935	159	313	59	2534	202	1986	150	322	61	3128	210	1706	131
1965	Jan.	0	0	0	0	620	31	0	0	0	0	602	31	0	0	0	0	625	31	0	0	0	0	621	31
	Feb.	0	0	24	6	311	25	0	0	30	8	258	22	0	0	19	5	296	24	0	0	52	11	183	12
	Mar.	1	1	32	6	375	30	4	1	60	8	311	27	0	0	26	6	320	29*	0	0	46	8	239	23
	Apr.	9	3	104	10	303	25	24	5	99	8	255	24	4	1	68	5	295	26	4	1	92	7	238	24
	May	8	2	348	25	0	0*	53	14	512	31	1	1	8	2	335	28	2	2	40	9	487	29	0	0*
	Jun.	0	0	162	19	17	4*	2	1	226	25	0	0	19	3	185	23	0	0	13	2	214	25	0	0
	Jul.	16	4	425	29	13	2	34	8	510	31	6	1	145	21	542	28	23	4	94	15	516	26	10	2
	Aug.	14	2	338	30	1	1	67	7	476	31	0	0	32	9	348	30	0	0*	10	3	317	28	0	0
	Sept.	14	3	243	24	29	7	6	1	293	24	26	7	2	1	201	23	6	2	15	3	378	22	0	0
	Oct.	15	3	254	22	33	6	0	0	269	21	37	8	0	0	176	21	7	3	0	0	168	18	19	4
	Nov.	0	0	6	1	378	27	0	0	16	1	370	25	0	0	1	1	385	24	0	0	4	1	391	26
	Dec.	0	0	0	0	653	31	0	0	2	1	600	31	0	0	0	0	653	31	0	0	0	0	632	31
	Annual	77	18	1936	172	2733	189	190	37	2493	190	2466	177	210	37	1901	170	2621	176	176	33	2274	175	2333	153
1966	Jan.	0	0	12	2	550	31	0	0	0	0	504	28	0	0	0	0	519	30	0	0	0	0	507	28
	Feb.	0	0	8	1	474	28	0	0	1	1	437	28	0	0	6	1	428	28	0	0	2	1	425	28
	Mar.	0	0	42	10	290	28	0	0	16	4	236	25*	0	0	40	8	127	20	0	0	20	5	264	27
	Apr.	83	12	296	27	79	14	56	9	329	26	52	11	74	10	325	23	12	5	37	7	293	25	49	12
	May	80	15	339	27	51	10	69	11	404	26	11	5	31	4	319	26	0	0	76	14	437	28	1	1
	Jun.	81	12	428	30	17	4	59	12	516	30	7	2	122	13	512	30	0	0*	124	17	542	29	0	0
	Jul.	110	18	444	30	20	4*	170	20	593	31	0	0	210	23	609	31	0	0	220	22	566	30	2	1
	Aug.	152	17	515	31	6	1	158	20	595	31	0	0	266	27	681	31	0	0	186	25	660	31	0	0
	Sept.	25	5	209	22	77	16*	23	5	223	23	27	7	27	6	268	26	0	0	23	4	175	17	10	3
	Oct.	30	8	231	22	102	17	23	5	230	18	48	9	12	4	323	27	0	0*	40	7	346	25	15	3
	Nov.	3	1	49	8	269	22*	7	1	62	5	335	24	1	1	37	5	277	22	2	1	61	6	323	25
	Dec.	0	0	0	0	678	31	0	0	0	0	692	31	0	0	0	0	673	31	0	0	0	0	663	31
	Annual	564	88	2573	210	2613	206	565	83	2959	195	2349	170	743	88	3120	208	2036	136	708	97	3102	197	2257	159
1967	Jan.	0	0	6	1	524	30	0	0	0	0	523	30	0	0	0	0	566	31	0	0	0	0	509	31
	Feb.	0	0	6	5	500	28	0	0	0	0	516	28	0	0	2	1	373	25	0	0	0	0	457	28
	Mar.	0	0	38	12	305	31	0	0	17	5	274	31	0	0	43	8	108	20	0	0	11	4	198	28
	Apr.	0	0	2	1	403	30	0	0	0	0	398	30	0	0	17	8	202	27	0	0	0	0	296	30
	May	41	10	199	20	97	17	35	8	226	21	32	6	77	14	326	23	65	13	30	7	335	28	8	3
	Jun.	79	15	339	25	56	10	59	10	326	25	43	7	3	2	267	23	8	3	23	5	320	24	25	3
	Jul.	209	23	635	31	0	0	264	30	697	31	0	0	167	22	686	31	0	0*	136	16	703	31	0	0
	Aug.	161	24	666	31	0	0	37	6	713	31	0	0	69	14	638	31	0	0*	137	20	694	31	0	0
	Sept.	6	2	228	26	51	8	5	1	345	20	56	9	0	0	234	19	19	6*	30	4	291	24	2	5
	Oct.	21	4	227	23	55	7	59	7	382	24	5	1	0	0	135	17	6	1*	29	4	250	20	2	5
	Nov.	0	0	36	5	343	24	0	0	32	3	188	15*	0	0	10	3	253	17*	0	0	50	5	317	24
	Dec.	0	0	28	6	460	28	0	0	15	2	326	24*	0	0	0	0	472	28*	0	0	6	2	436	28
	Annual	517	78	2410	186	2794	213	459	62	2753	162	2361	181*	316	52	2358	164	2072	171	385	56	2660	169	2294	185
1968	Jan.	0	0	0	0	506	31	0	0	2	1	469	31	0	0	0	0	559	31	0	0	0	0	471	30
	Feb.	0	0	1	1	567	29	0	0	0	0	561	29	0	0	0	0	532	29	0	0	3	1	516	29
	Mar.	7	3	79	12	243	30	9	3	86	11	168	20	0	0	43	9	159	21*	0	0	68	12	18	23
	Apr.	114	16	365	28	62	9	131	15	320	28	49	8	26	4	302	25	47	6*	47	8	369	25	60	7
	May	96	15	405	30	8	2	69	13	353	28	10	3	25	5	376	30	0	0*	8	2	362	28	7	2

*Partial record this month.

thermograph chart. On those occasions where an appreciable difference between the two instruments was found, an allowance was made for instrument "lag" when the hygrothermograph relative humidity reading was in a period of change at the time of the psychrometer reading. Where a major change in air mass caused a large and rapid change in humidity, the hygrothermograph relative humidity mechanism often lagged several days in adjusting completely to the change. Differences between the readings of the psychrometer and the

Table 13: RELATIVE HUMIDITY (continued)

Year	Month	Station																					
		D-55-110						E-25-040						E-40-070						E-70-110			
		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%	
		Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days
1963	Jan.																								
	Feb.																								
	Mar.	0	0	7	2	218	19*																		
	Apr.	0	0	2	1	328	30																		
	May	0	0	17	4	150	24																		
	Jun.	1	1	251	28	10	2																		
	Jul.	0	0	328	28	0	0																		
	Aug.	27	6	442	31	0	0	0	0	44	8	22	4	0	0	39	8	14	3	18	5	97	11	41	5*
	Sept.	3	1	189	21	14	3	0	0	44	10	98	14	0	0	43	8	36	4	29	6	153	18	168	19
	Oct.	0	0	15	4	197	25	0	0	25	5	199	20	0	0	6	1	34	6	0	0	38	7	272	26
	Nov.	0	0	1	1	339	28	0	0	0	0	361	30	0	0	0	0	409	26*	0	0	1	1	523	30
	Dec.	0	0	6	1	540	29*	0	0	0	0	713	31	0	0	0	0	680	31	0	0	6	3	577	30*
	Annual																								
1964	Jan.	0	0	4	1	537	31	0	0	0	0	519	31	0	0	0	0	563	31	0	0	4	2	499	31
	Feb.	1	1	30	7	250	25	0	0	63	13	197	22	1	1	59	11	281	27	9	4	96	15	210	21
	Mar.	3	1	112	14	100	19	8	2	161	21	87	13	15	2	161	19	186	21	16	2	147	18	205	21
	Apr.	15	5	248	26	16	5	0	0	179	24	35	7	0	0	160	22	101	16	17	6	189	22	125	19
	May	24	6	301	25	24	4	43	11	283	25	10	3	30	6	234	23	67	10	27	10	206	23	120	17
	Jun.	120	14	419	28	2	1	122	15	419	28	0	0	77	11	362	27	21	4	99	13	303	26	79	13
	Jul.	69	14	642	31	0	0	218	26	640	31	0	0	109	20	533	31	0	0	194	26	472	31	10	2
	Aug.	69	12	579	30	12	1	105	15	521	30	19	2	80	14	493	30	6	1	123	19	466	29	44	6
	Sept.	44	9	384	26	16	5	38	8	331	27	27	4	33	6	337	27	2	1	51	9	296	29	93	13
	Oct.	24	5	252	22	114	9	13	3	254	21	120	10	15	3	229	20	93	9	55	8	.249	21	135	11
	Nov.	0	0	0	0	461	30	0	0	0	0	460	30	0	0	0	0	421	30	0	0	4	3	410	30
	Dec.	0	0	0	0	552	31	0	0	0	0	453	25*	0	0	0	0	572	31	2	1	4	1	556	31
	Annual	369	67	2971	210	2084	161	547	80	2851	220	1927	147	360	129	2568	210	2313	181	593	98	2436	220	2486	215
1965	Jan.	0	0	0	0	628	31	0	0	0	0	567	29*	0	0	0	0	624	31*	0	0	0	0	613	31
	Feb.	0	0	22	5	280	23*	0	0	16	5	371	28	2	1	48	9	347	26	3	1	35	9	389	27
	Mar.	0	0	51	8	297	28	0	0	41	8	325	31	4	1	54	10	289	30	0	0	33	7	395	30
	Apr.	6	3	87	7	253	23*	4	1	74	5	271	25	2	1	98	12	205	22	2	2	61	8	341	25
	May	19	7	461	31	2	1	4	1	299	27	14	4	44	9	319	28	18	5	24	5	204	26	115	19
	Jun.	0	0	214	24	0	0	27	7	225	27	9	3	40	8	241	28	26	5	36	8	224	28	150	22
	Jul.	27	7	499	31	14	2	111	20	490	26	32	6	112	20	480	30	16	3	150	22	418	31	38	8
	Aug.	47	11	412	31	0	0	68	12	396	31	0	0	163	20	522	31	0	0*	130	16	377	28	34	7*
	Sept.	8	2	329	25	4	1	21	6	284	25	5	2	32	8	286	27	15	4	8	1	130	15	131	17*
	Oct.	17	2	244	20	24	6	4	2	183	22	41	10	29	4	249	22	42	8	35	6	269	24	105	15
	Nov.	0	0	6	1	409	26	0	0	2	1	437	29	0	0	2	1	429	27	0	0	10	1	471	30
	Dec.	0	0	2	2	624	31	0	0	0	0	630	31*	0	0	0	0	659	31	0	0	0	0	534	26*
	Annual	124	32	2327	185	2535	174	239	49	2010	177	2702	198	428	72	2299	198	2670	192	388	61	1761	177	3316	257
1966	Jan.	0	0	0	0	565	30	0	0	4	1	583	31	0	0	1	1	575	31	0	0	4	1	469	25*
	Feb.	0	0	3	1	393	27	0	0	6	1	479	28	0	0	7	1	465	28	0	0	4	1	325	23*
	Mar.	0	0	14	3	279	28	0	0	29	7	275	29	2	1	28	8	291	29	1	1	40	10	263	28
	Apr.	43	8	263	22	70	12	66	10	288	25	74	14	47	10	296	29	72	15	46	7	212	23	148	19
	May	47	9	390	27	5	2	29	5	250	24	58	12	20	6	239	24	74	14	70	11	238	24	139	20
	Jun.	136	18	518	29	9	2	152	17	484	30	11	3	91	15	420	28	20	5	145	17	418	29	47	8
	Jul.	163	24	540	31	5	1	209	25	535	30	8	2	210	23	522	31	11	3	158	21	420	30	29	8
	Aug.	178	23	617	31	0	0	242	27	641	31	1	1	152	20	593	31	7	2	217	28	553	31	11	2
	Sept.	34	7	265	26	9	3	42	9	292	27	20	4	18	4	218	25	43	10	66	11	253	26	67	12
	Oct.	19	4	266	22	35	7	13	4	264	24	49	9	74	9	261	21	67	12	78	10	278	25	100	15
	Nov.	0	0	34	3	367	25	0	0	42	6	387	26	4	1	42	5	406	27	5	1	44	5	424	28
	Dec.	0	0	0	0	636	31*	0	0	0	0	686	31	0	0	0	0	678	31	0	0	0	0	673	31
	Annual	620	93	2910	195	2373	168	753	97	2835	206	2631	190	618	89	2624	204	2709	207	786	107	2464	205	2695	219
1967	Jan.	0	0	2	1	540	30	0	0	0	0	609	31	0	0	0	0	565	31	0	0	5	3	524	31
	Feb.	0	0	0	0	460	27*	0	0	0	0	501	28	0	0	3	1	503	28	0	0	1	1	527	28
	Mar.	0	0	13	6	231	30	2	1	48	9	315	29	0	0	27	8	355	30	0	0	0	0	476	31
	Apr.	0	0	0	0	313	30*	0	0	23	8	364	30	0	0	4	1	394	30	0	0	0	0	468	30
	May	19	5	237	22	3	1*	70	14	260	26	71	15*	66	14	244	26	92	18	50	10	209	25	148	20
	Jun.	28	8	308	24	27	4	67	16	312	24	68	12	53	15	287	26	83	16	74	13	254	22	113	15*
	Jul.	169	22	672	31	0	0	237	27	642	31	0	0	258	27	629	31	0	0	167	22	425	25	0	0*
	Aug.	64	11	606	29	0	0*	163	26	630	31	0	0	225	29	649	31	0	0	198	28	576	31	0	0
	Sept.	40	6	311	23	28	5	7	2	246	21	43	7*	4	2	291	27	53	10	41	8	245	23	93	12
	Oct.	23	4	241	22	29	4	49	10	257	22	28	5*	23	6	217	25	45	8	23	5	187	20	72	10
	Nov.	0	0	53	6	329	21	0	0	29	5	357	26	0	0	34	5	358	25	0	0	45	7	195	21*
	Dec.	0	0	9	3	424	28	0	0	24	5	544	31	0	0	8	2	491	31	0	0	10	2	268	19*
	Annual	343	56	2452	167	2384	180	595	96	2471	182	2900	214	629	93	2393	183	2939	227	553	86	1957	159	2884	217
1968	Jan.	0	0	2	1	442	31	0	0	0	0	598	31	0	0	1	1	521	31	0	0	10	3	501	31
	Feb.	0	0	9	1	539	29	0	0	2	1	534	29	0	0	3	1	566	29	0	0	6	1	539	29
	Mar.	6	3	114	19	138	18	0	0	32	9	327	30	0	0	53	10	294	28	0	0	60	12	284	27
	Apr.	127	15	402	25	77	7	129	18	357	25	89	11	38	8	233	24	108	16	73	10	291	24	108	11
	May	71	14	421	28	10	2	86	16	354	28	33	9	47	12	306	28	78	13	39	12	291	28	104	15

*Partial record this month.

hygrothermograph were reconciled by a percentage correction applied to the hygrothermograph reading during the data tabulation process. Although subjective, the allowance was soundly based. The change in air mass which resulted in rapid shifts of humidity usually also resulted in rapid shifts of temperature. The hygrothermograph recorded the rapid temperature shifts as they occurred. The observer was thus able to prorate that portion of the relative humidity change not immediately reflected by hygrothermograph tracings.

Table 13: RELATIVE HUMIDITY (continued)

Year	Month	Station																					
		P-15-028						P-50-050						P-75-070						Q-15-060			
		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%		≤ 15%		≤ 30%		≥ 70%	
		Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days	Hrs.	Days
1963	Jan.																								
	Feb.																								
	Mar.																								
	Apr.																								
	May							0	0	14	3	201	26*	0	0	14	2	47	13*						
	Jun.							0	0	132	23	51	11	0	0	158	16	6	2						
	Jul.							0	0	157	22	14	4	0	0	410	31	0	0	1	1	263	22	0	0*
	Aug.							0	0	134	21	38	8	14	3	619	31	0	0	3	2	232	25	25	6
	Sept.							2	1	78	15	72	11	0	0	560	30	0	0	0	0	54	11	94	13
	Oct.							0	0	21	5	295	25	0	0	43	3	183	20	0	0	10	1	315	28
	Nov.							0	0	0	0	504	30	0	0	0	0	464	30	0	0	2	1	521	30
	Dec.							0	0	0	0	683	31	0	0	1	1	519	26*	0	0	0	0	698	31
	Annual																								
1964	Jan.							0	0	0	0	541	31	0	0	1	1	431	29*	0	0	2	1	554	31
	Feb.							2	1	90	14	288	29	3	1	83	12	278	25	0	0	72	12	337	29
	Mar.							16	4	113	17	257	25	20	5	229	23	104	11	7	1	146	17	260	27
	Apr.							3	3	196	25	125	21	22	7	269	27	61	16	8	3	179	24	142	26
	May							20	7	225	24	51	11	52	11	363	25	10	3	4	1	248	23	34	9
	Jun.							124	14	351	27	18	4	95	14	438	28	0	0	80	9	307	25	22	6
	Jul.							194	25	581	31	0	0	96	18	614	31	0	0	147	22	484	31	1	1
	Aug.							108	18	506	30	20	2	92	11	565	30	14	1	47	10	436	30	12	1
	Sept.							61	11	277	25	26	5*	29	9	393	27	19	5	84	13	338	27	24	6
	Oct.							12	3	228	22	115	11*	1	1	201	20	104	10	12	3	205	22	112	11
	Nov.							0	0	1	1	452	30	0	0	2	2	425	30	0	0	9	2	434	30
	Dec.							0	0	0	0	251	17*	0	0	0	0	581	31	0	0	0	0	577	31
	Annual							540	86	2568	216	2144	186	410	77	3158	226	2027	161	389	62	2426	214	2509	208
1965	Jan.							0	0	2	1	621	31*	0	0	0	0	657	31	0	0	2	1	606	31
	Feb.							3	1	41	11	387	28	0	0	26	6	389	28	1	1	66	12	330	27
	Mar.							12	2	64	10	353	31	0	0	62	10	270	30	5	2	70	12	333	31
	Apr.							2	0	73	9	287	28*	0	0	90	8	220	22	0	0	80	10	318	30
	May							108	14	332	27	56	13	57	11	407	28	7	3	92	15	358	27	38	9
	Jun.							60	11	296	28	25	7	28	8	325	28	8	3	62	9	334	29	17	6
	Jul.							121	20	464	30	25	4	86	14	552	31	1	1	27	6	268	27	33	6*
	Aug.							100	15	363	28	5	2*	112	15	581	31	0	0	80	14	374	31	15	6
	Sept.							56	12	277	25	50	8*	26	5	389	26	0	0	40	9	266	26	51	10
	Oct.							43	7	246	26	54	9	0	0	211	20	3	2	94	14	302	27	42	9
	Nov.							0	0	8	2	454	30	0	0	6	2	446	24	0	0	5	2	482	29*
	Dec.							0	0	0	0	659	31	0	0	0	0	630	29*	0	0	1	1	629	31
	Annual							503	82	2166	197	2976	222	309	53	2647	190	2631	173	401	70	2126	205	2894	225
1966	Jan.							0	0	6	1	549	31	0	0	0	0	548	29*	0	0	20	7	488	31
	Feb.							0	0	11	3	438	28	0	0	0	0	426	28	6	2	41	8	408	29
	Mar.							7	1	125	19	213	26	0	0	78	13	273	29	0	0	59	10	335	31
	Apr.							57	11	266	23	90	13	20	4	253	22	83	14	74	11	240	26	152	20
	May							69	8	253	22	22	5	46	9	343	27	1	1	109	17	332	26	35	11
	Jun.							174	21	482	29	13	4	155	15	475	29	5	1	191	21	461	30	12	3
	Jul.							200	24	540	31	18	2	225	25	566	31	2	1	173	23	454	31	38	9
	Aug.							176	21	515	28	3	2*	229	24	597	29	5	1	102	13	347	25	10	3*
	Sept.							71	10	269	22	35	9	6	3	175	22	18	5	73	10	250	23	53	11*
	Oct.							90	14	320	23	37	7	13	2	191	21	61	13	89	14	253	23	90	16
	Nov.							6	1	38	5	415	26	4	1	48	5	356	27	0	0	49	9	405	27
	Dec.							0	0	0	0	692	31	0	0	0	0	627	29*	0	0	0	0	662	31
	Annual							850	111	2825	206	2525	184	698	83	2726	199	2405	178	817	111	2506	218	2688	221
1967	Jan.							0	0	3	2	571	31	0	0	0	0	561	31	2	1	25	6	502	31
	Feb.							0	0	5	1	542	28	0	0	0	0	546	28	0	0	3	1	500	28*
	Mar.							0	0	21	7	453	31	0	0	0	0	449	31	0	0	32	8	416	31
	Apr.							0	0	7	3	452	30	0	0	4	1	397	30*	0	0	7	4	428	30
	May							99	13	266	27	132	22	41	9	260	25	84	16*	77	17	281	28	118	20*
	Jun.							27	6	227	24	86	16	9	5	282	24	19	5*	59	12	315	27	42	11
	Jul.	10	2	124	6	0	0*	293	28	625	31	0	0	258	26	647	31	0	0	233	26	549	31	0	0
	Aug.	46	12	668	31	0	0	211	28	599	31	0	0	219	25	682	31	0	0	142	22	541	31	0	0
	Sept.	15	6	379	27	0	0	27	8	285	28	71	12	4	2	341	28	5	1	42	7	299	28	41	9
	Oct.	11	3	176	20	11	4	35	7	220	24	80	12	10	3	228	23	27	6	81	10	280	26	71	14
	Nov.	0	0	30	4	313	23*	0	0	48	10	233	17*	0	0	33	4	345	26	27	4	61	6	251	21*
	Dec.	0	0	17	2	496	30	0	0	17	3	516	31	0	0	24	3	420	28*	8	2	56	6	410	29
	Annual							692	90	2323	191	3136	230	541	70	2501	170	2853	202	671	101	2449	202	2779	224
1968	Jan.	0	0	0	0	542	31	0	0	0	0	564	31*	0	0	0	0	513	31	0	0	10	3	484	31
	Feb.	0	0	0	0	527	29	0	0	3	1	575	29	0	0	0	0	543	29	0	0	4	1	530	29
	Mar.	0	0	29	8	190	25	3	2	72	14	349	31	0	0	46	9	240	26	0	0	71	14	309	30
	Apr.	55	10	339	25	41	6	143	17	346	25	103	12	0	0	309	25	41	7	128	20	330	28	92	16
	May	37	8	325	28	11	3	89	15	402	29	31	4	7	4	338	27	4	2	120	16	398	29	16	7

*Partial record this month.

Relative humidity records are considered accurate to within an estimated five percent although no statistical attempt has been made to verify this estimate. They are reported in Table 13 in terms of the number of hours in each month during which the humidity was equal to or less than both 15 and 30 percent and equal to or more than 70 percent. The table also reports number of days during which such humidities occurred. Annual values represent the sum of monthly totals. A notation indicates periods when more than six hours of

chart data were missing.

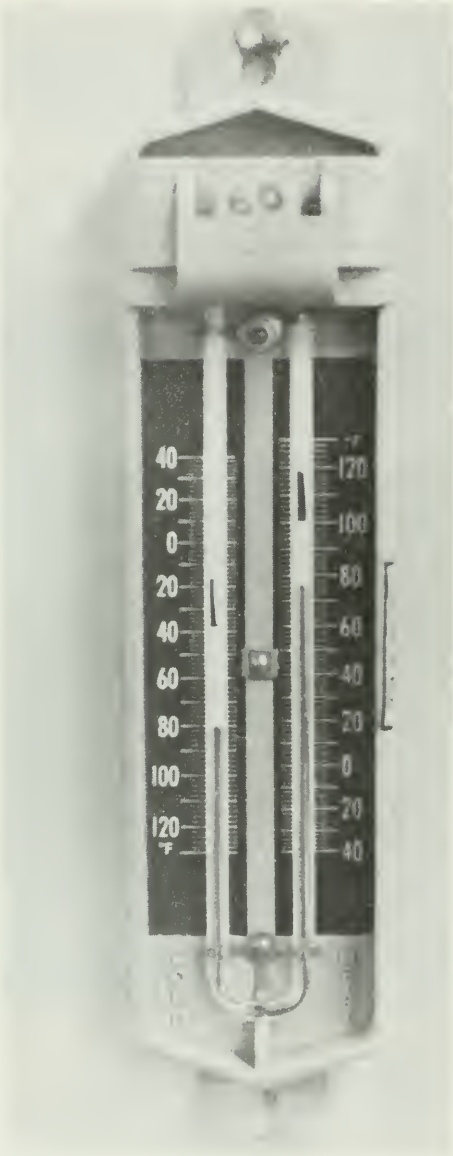
In the study area, lower relative humidities occur during the daylight hours of the summer. Higher relative humidities occur both day and night during the winter but only at night during the rest of the year.

Within transects, no particular pattern of relative humidity exists. Because low humidities normally occur with high temperatures, and high humidities with low temperatures, one would expect humidity extremes to occur at the low-elevation stations where the low and high temperature extremes occur. The more frequent high and low humidities and the greater accumulated hours of high and low humidities, however, occur instead at the mid-elevation and high-elevation stations. Because they exhibit a narrow range, the frequency of occurrence and the duration of humidity extremes are relatively unimportant.

More hours and days of humidities lower than 15 percent or greater than 70 percent occur in Transects E, F, and G than in the other transects. Among the complex factors contributing toward this situation is the tendency of these transects toward lower mean minimum and higher mean maximum temperatures. Furthermore, the night air moving from the coast through the mountain passes tends to increase in relative humidity, whereas the day air, modified by the land mass it must cross, tends to decrease in relative humidity before reaching the study area. Areas lying at 700 and 800 feet on Transects C and D tend toward fewer hours of both high and low humidities.

Air Temperature. Monthly maximum and minimum temperature data for all network stations and for three nonnetwork stations is shown in Table 14 which starts on page 52. Annual maximum and minimum temperatures, also shown, were picked from monthly extremes. If weekly or monthly values were missing, the extremes in the remaining values were included only if more extreme values obviously did not occur in the missing record. In addition, for two of the nonnetwork stations (Taft Radio KTKR and Coalinga U. S. Bureau of Reclamation) the average monthly high and low temperatures are reported. These latter are the averages of the daily maximum and minimum values. Average annual high and low values for these

HYGROTHERMOGRAPH (bottom) at Station E-40-070 recorded both humidity and air temperature. During weekly servicing of the mechanism, both present and preceding weeks' maximum and minimum temperatures were checked against those shown on the maximum-minimum thermometer (top). Relative humidity (bottom pen) also was checked with a portable psychrometer.



INACCURATE THERMOMETER simultaneously registers temperatures as 80° (left) and 77° (right). Scale slippage caused the difference in this case.

two stations are the average of the twelve monthly values. Average high and low temperatures cannot be computed on this basis for network satellite stations since they were read only once a week. However, such values were computed and are reported for all major stations in Table 15, discussed later.

Breakage, vandalism, occasional theft, and thermometer exchanges affected the data somewhat differently at differing stations. Corrections were made where possible; otherwise, data are omitted from Table 14.

In using weekly satellite readings to develop monthly values, it was necessary to consider that the initial reading included some portion of the preceding month and that the final few days of each month were usually included in the first weekly reading in the succeeding month. If the first reading in the month being studied or in the following month was more extreme than any of the other maximum or minimum readings during the month being studied, reference was made to the hygrothermograph charts at the two nearest major stations. By correlation with these records it was usually possible to determine the day when the extreme values occurred.

Upon occasion a monthly extreme temperature occurred during the week overlapping the month end but the thermometer readings for the week apparently applied to the other month. The actual extreme for the month in question was estimated by correlation between available maximum-minimum readings and the hygrothermograph chart readings. Such values, marked with an asterisk in Table 14, are estimated to be within two degrees Fahrenheit of what the measured value would have been. In all cases where correlations appeared uncertain the values were omitted.

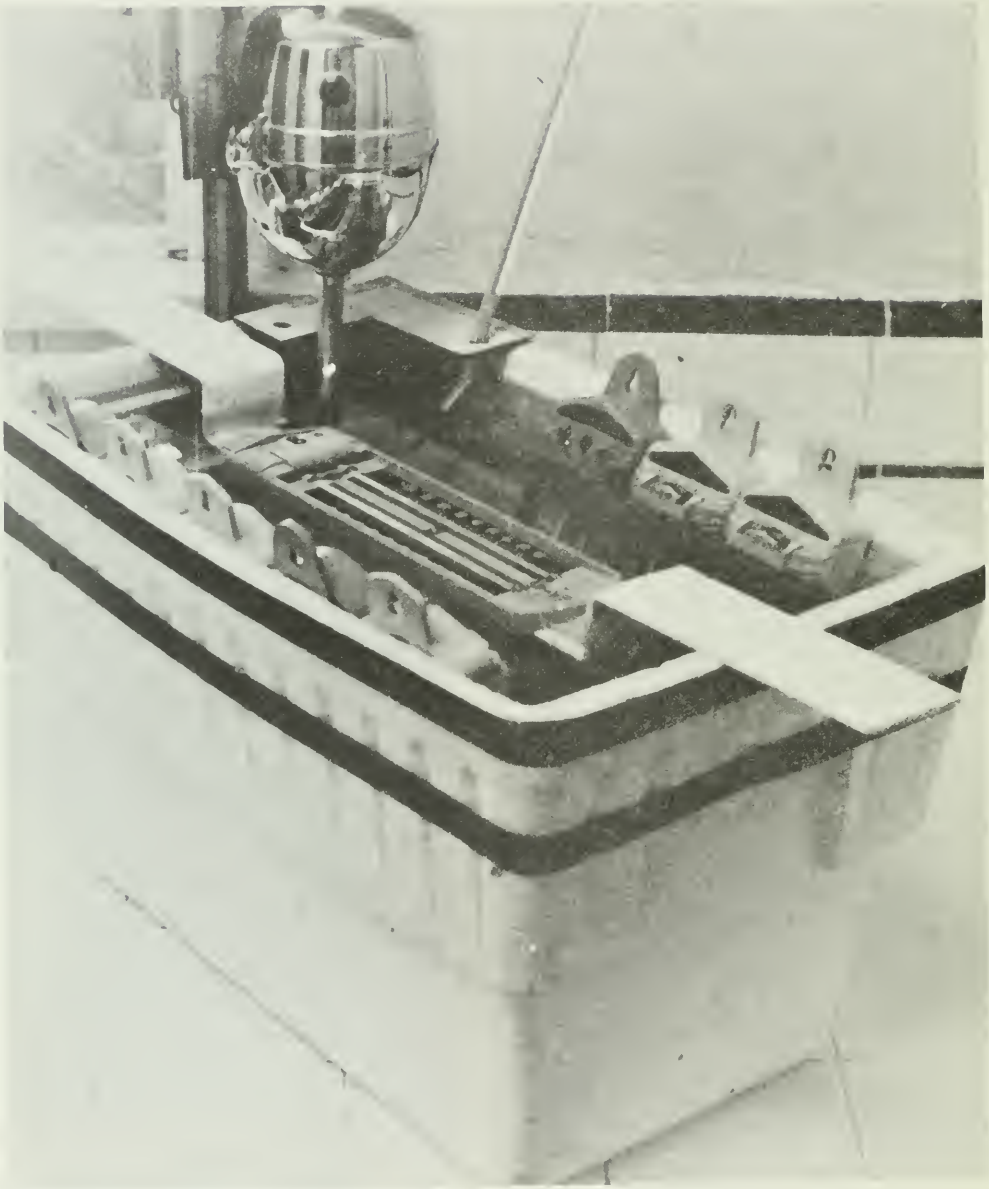
The maximum-minimum indicating thermometers used at all network stations were of the Six's or "U" tube type.

Although they were precalibrated at several temperatures prior to field installation, their accuracy in the field was found to vary. Sometimes the glass thermometer tubes slipped with respect to the scales, or one of the scales with respect to the thermometer tube. Reading errors as high as three or four degrees Fahrenheit were occasionally caused by such slippage. Furthermore, the activating fluid in the thermometers sometimes passed into or through the mercury column, affecting the column's length or position. In addition, slight variations in the uniformity and diameter of the bore in the thermometer tubes caused reading errors because all scales were manufactured to suit an average size tube. And finally, shelter vibrations sometimes shook down the maximum and minimum indexes. This latter problem was corrected during the first year of study. Obviously defective instruments were replaced as detected. All the instruments were reinstalled on a swiveling bracket which held the thermometer about 65 degrees from the vertical so as to minimize shaking down of the indexes.

To maintain continued accuracy of the Six's thermometers throughout the study, they were periodically checked in the field against a standard laboratory thermometer. They were further checked at several temperatures in a controlled temperature water bath in the laboratory. A calibration graph, prepared for both the maximum and the minimum scale of each thermometer, plotted those variations discovered during the checks, together with the dates of the checks. A correlation graph compared temperature differences at specified times between the station under consideration and the two adjacent stations along the transect. Changes in the correlation graph indicated the need for a revised calibration graph. Such changes were sometimes sudden, sometimes gradual. When gradual, the time over which the change occurred was subdivided into periods when the change was from one to two degrees Fahrenheit and individual calibration graphs were prepared for each period. As a result, the accuracy of temperatures reported in Table 14 is estimated to be within one degree Fahrenheit except for those temperatures flagged with an asterisk. These are month-end values estimated by correlation with hygrothermograph readings and, as previously discussed, their accuracy is estimated to be within two degrees Fahrenheit.

Table 15, which starts on page 61, presents temperature data for the major network stations and for the Kern County Land Company Citrus Station and the U. S. Weather Bureau stations in Bakersfield and Fresno. These data, taken from hygrothermograph records, are more detailed than those in Table 14. Corrected maximum-minimum thermometers were used in correcting deviant temperature readings on the hygrothermograph as follows: On a graph in which the thermograph readings were plotted on the horizontal axis, the differences between the weekly thermograph extremes and the corresponding Six's thermometer readings were plotted on the vertical axis. A straight line, fitted to the resulting pattern of weekly points, determined the correction factor to be applied.

From time to time, the observer adjusted the hygrothermographs in an effort to bring their temperature readings into precise agreement with the maximum-minimum thermometers. Only late in the study were such adjustments recognized as procedural errors which always necessitated determination of a new correction factor. Nevertheless, temperature values reported in Table 15 are considered accurate to within one degree Fahrenheit. Values for the number of hours at which the temperature was above or below certain specified levels are considered accurate to within an estimated five percent.



IMMERSED in a specially designed water bath, maximum-minimum thermometers were checked for scale error at controlled temperatures against a standard laboratory thermometer.

Monthly maximum and minimum temperatures appear if no more than five days of data were missing or if the missing data could be determined from maximum-minimum thermometer readings. Annual maximum and minimum temperatures were picked from the monthly maximums and minimums. Where some monthly values were missing, annual values were reported only if the missing months obviously did not contain the particular annual extreme.

Average high and low temperatures represent the sum of daily maximum and minimum temperatures divided by the number of days. Table 15 reports these average temperatures for those months for which no more than five days of data were missing and for those years for which no more than 20 days of data were missing. Because missing data normally did not exceed more than a few days, the calculation of annual averages includes data from the greatest part of each month. As a result, annual average high and low temperature values are little affected even in those cases where monthly average high and low temperatures are missing.

Hours above or below specified temperatures represent the sum of daily hours for each month and that of monthly hours for each year. The annual hours are omitted only if the entire record for the month is missing. The total hours of record during any month is the sum of those hours in the two columns showing duration of temperatures of more than 50°, and of equal to or less than 50°.

Analysis*of air temperatures in the study area, in terms of both general climate and specific crop response, was based primarily on data obtained from major stations. Summers are extremely hot. Temperatures exceed 100 degrees Fahrenheit at most points for several days in June, July, August, and September. Below freezing temperatures occur regularly during December, January, and February and occasionaly during March and April.

Within transects, lower-elevation stations generally are cooler in winter and warmer in summer than are higher elevation stations. During the winter, cold air draining down the slopes generally seeks lower elevations such as those around Kern, Buena Vista, and Tulare Lake Beds. During the summer, the temperature of the warm, dry, rising air drops as the air pressure drops and the air itself expands. In such situations, the temperature drops about 5.5 degrees with each 1000-foot increase in elevation. The mildest year-round temperatures occur along the northern slopes of the San Emigdio Mountains (Transects A and B).

Transect A possesses the mildest summers. It enjoys fewer days and hours above 90 degrees than does any other transect and possesses more days and hours of temperature between 50 and 60 degrees. The higher elevations of this transect contribute to its coolness; so also does its northeasterly slope, which accumulates heat during the early morning and then dissipates that heat during the remainder of the day. Winters in Transect A are mild and approximate those of Transect B.

Transect B possesses the mildest winter in the study area, except for its Station B-20-040 where the extreme cold temperatures approximate those of Station E-25-040. Topographic influences at these two stations are somewhat similar and probably account for the cold conditions. Transect B also has relatively mild summers. The transect lies on a north-facing slope which intercepts sun energy throughout the day and is therefore warm. The

*See footnote page 21.

transect is not uncomfortably hot, however, because it receives the westly and southwesterly marine winds which pass from the Pacific Ocean through the Santa Maria and Cuyama River Valleys, and over the Cuyama Pass. Station B-55-110 has accumulated a great number of hours and days with temperatures between 50 and 90 degrees. When Station B-20-040 is ignored, temperatures within the comfort range of humans occur more frequently and for a longer duration in Transect B than in other transects.

Transect C was one of the warmer winter areas except for the lower areas around Station C-20-040. This station lies at 400 feet on a northeasterly facing slope and near a natural drainage depression. The hills to the west and south face away from the sun and tend to be cooler than many other areas. Cold air draining from these hills accounts for the lower temperatures at this station. Warmer maximum temperatures occur at stations along the lower ends of all transects, and those at the lower end of Transect C are no exception.

The mild winters of Transect D approximate those of Transect B. Indeed, when all temperature criteria are considered, Station D-05-028 is the warmest in the study area. This station lies at a low elevation. Lower-elevation stations exhibit higher extreme temperatures and more accumulated hours at higher temperatures than do the higher-elevation stations. Contrary to the case in other transects, the lower-elevation stations in Transect D were somewhat warmer during the winter than the higher-elevation stations. Three possible explanations, none of them completely satisfactory, were considered. The first explanation, that the lower elevations of Transect D are somewhat more fog-covered than those of other transects, is not verified by the limited cloud condition data available. The second explanation suggests that the transect, in crossing a moderate valley floor between the Lost Hills to the east and the Temblor range to the west, is not placed so as to reflect the colder sites. The third explanation is that the topography of the Lost Hills shields Station D-05-028, the lowest station, from the cold air draining from higher elevations.

At temperatures greater than 100 degrees, the warmest high-elevation station (1100 feet) is Station E-70-110 in Transect E. Cold temperatures present a potential hazard to agricultural crops in areas around the lower stations of Transect E. Although Transect E as a unit is less cold than Transects F and G, the extreme cold temperatures of its lower-elevation major stations (E-25-040 and E-40-070) approximate those measured in F and G. Station E-25-040 lies at 400 feet near the western face of the Lost Hills, whose ridge impounds cold air which otherwise would drain away to the floor of the San Joaquin Valley. Station E-40-070 lies at 700 feet at the mouth of Antelope Valley and in the path of the air drift out of the valley.

Transects F and G, which exhibit more days of greater cold than do any other transects, present the greatest potential cold temperature hazard to agricultural crops.

The major stations of Transect F lie on valley floors where restricted air movement tends to trap cold air. The narrow outlet through Pyramid Hills at the south of Sunflower Valley slows the drainage of cold air away from Station F-75-070. Similarly, the narrow Avenal Gap through Kettleman Hills, together with the southern ridge which separates Kettleman Plain from Antelope Plain, tend to slow the drainage of cold air away from Station F-50-050.

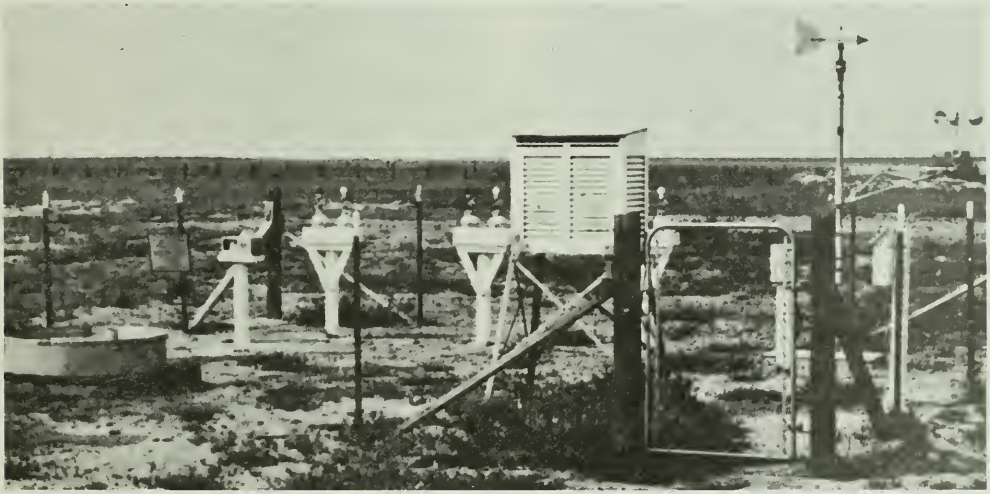
The stations of Transect G lie in the narrow slot linking Pleasant Valley with Kettleman Plain and near the restricted eastern drainage outlet from Pleasant Valley.

In conducting climatological portions of the West Side Crop Adaptability Study, investigators placed primary emphasis upon the collection of air temperature data because air temperature most often is the limiting climatic factor in the production of irrigated crops. Assuming satisfactory air temperature, however, either wind, relative humidity, solar radiation, or soil temperature could limit adaptability of specific crops. Vegetable and field crops, grapes, tree fruits, nuts, and citrus fruits will grow well in the study area. Avocados, however, are not suited to the climate.

VEGETABLE CROPS -- practically all those grown anywhere else in California -- will grow well in the study area if planting times are adjusted to meet existing temperature conditions.

FIELD CROPS also may be successfully grown. The study area possesses enough warm days to permit complete growing cycles, although selection of the proper seeding dates for warm-season annuals will be important. Soil factors rather than temperature may limit production of perennial species.

GRAPES of the "Hot-area" varieties presently grown along the east side of the Central Valley from Bakersfield to Modesto and from Sacramento to Redding will grow well in the study area although cultivation of the existing vineyards already has resulted in overproduction in some years. Therefore, the market demand for present varieties makes the planting of vineyards in the study area a gamble. Heat accumulation in the study area from April 1 through October 31 exceeds 4000-degree days,



MAJOR STATION D-40-080 occupies a 25-foot square fenced area. Large cotton region type instrument shelter houses hygrothermograph which continuously records air temperature and relative humidity. Other instruments (left to right) are: evaporation pan, pyreheliograph, three pairs of atmometer spheres (one partly hidden behind the hygrothermograph shelter), rain gage, wind vane, soil thermograph shelter and anemometer.

Table 16: AIR TEMPERATURES CRITICAL TO DECIDUOUS FRUIT PRODUCTION

Station	September through February: Total Hours in Which Temperature ≤ 45°						November 21 through February 13: Number of Weeks in Which Average Maximum Temperature ≥ 57°					November 21 through February 13: Number of Days in Which Maximum Temperature ≥ 60°					February 15 through October 31: Number of Weeks in Which Avg. Maximum Temp. ≥ 100°				February 15 through October 31: Number of Days in Which Maximum Temperature ≥ 100°			
	1963-64	1964-65	1965-66	1966-67	1967-68	Average	1963-64	1964-65	1965-66	1966-67	1967-68	1963-64	1964-65	1965-66	1966-67	1967-68	1964	1965	1966	1967	1964	1965	1966	1967
A-25-122	1506	1265	1357	1230	967	1265	4	5	4	5	5	22	20	16	20	17	0	0	1	2	15	2	16	22
A-45-158	1455	1217	1316	987	809	1157	4	2	4	6	5	17	17	20	22	17	0	0	0	2	6	0	8	16
B-20-040	1533	1226	1470	1262	958	1290	2	7	3	5	7	8	29	14	31	20	5	2	5	7	31	10	39	44
B-35-070			1282	1039	952		2	5	2	6	5	10	21	9	31	17	2	0	5	7	23	6	27	44
B-55-110	1521	1019		1049	926		1	6	2	4	2	10	27	6	21	11	0	0	1	6	19	1	18	40
C-20-040	1626	1312		1382	1087		3	7	2	5	6	19	26	11	23	20	6	2	5	9	29	19	36	56
C-40-070	1504	1154	1429	1229	1013	1266	3	5	2	5	7	15	24	11	19	21	3	2	5	8	27	20	37	51
C-60-108	1646	1128	1436	1339	894	1289	1	5	0	2	4	10	18	4	14	12	0	0	4	6	19	8	22	42
D-05-028							5	7	3	5	7	20	26	10	25	19	6	3	6	9	41	37	49	58
D-40-080	1511	1051	1289	1314	966	1226	1	6	1	3	3	9	21	5	18	14	4	0	4	7	34	8	34	47
D-55-110	1282	1180	1461	1293	850	1213	1	3	0	3	4	10	17	5	17	19	0	0	4	6	17	8	29	38
E-25-040	1698	1091	1354	1261	1180	1317	2	6	3	5	5	11	17	8	16	12	6	3	5	9	37	33	47	61
E-40-070	1663	1206	1366	1347	992	1315	1	6	2	3	5	13	19	10	18	21	5	2	4	9	33	16	46	54
E-70-110	1526	1104		1069			1	5	1	4	4	17	18	6	18	22	1	2	4	7	22	19	30	42
F-50-050	1677		1643	1386	1253		2	5	1	4	7	19	16	8	17	15	6	3	4	8	40	23	38	59
F-75-070							2	5	1	3	6	11	19	9	17	20	3	1	4	9	28	15	40	54
G-15-060							2	6	2	5	7	11	14	6	16	25	3	0	3	6	22	8	26	50
KMFS*							3	4	2	5	4	19	29	11	17	17	4	0	5	5	30	5	31	38

* Kearney Horticultural Field Station maintained near Reedley, California, by the Department of Pomology, University of California.

thus placing it in the grape growing area categorized by Amerine and Winkler as Region V*. Transect A is one of the best Region V areas in the study. The hottest areas, about 5100-degree days, surround Stations D-05-028 and C-40-070. These accumulations slightly exceed those of areas around Fresno and Bakersfield which reach about 4700- and 5000-degree days, respectively. By contrast, the coolest area, about 4100-degree days, lies in Pleasant Valley East of Coalinga by Station G-15-060. The frost hazard to grapes is high at this station, but higher at Station F-75-070 and highest at Station F-50-050. Elsewhere, frost hazard is minimal.

DECIDUOUS TREE FRUIT AND NUT SPECIES most adaptable to the temperatures in the study area include peach, nectarine, plum, and almond. Moderately adaptable species include prunes and those walnuts tolerant of mild winters and hot summers. Least adaptable species include apple, pear, apricot, sweet cherry, and those walnuts intolerant of such weather. The most adaptable species are the same as those presently grown on the floor of the San Joaquin Valley. In determining adaptable species, the specialist considered winter temperatures in relation to the problem of delayed dormancy; and high summer temperatures in relation to the problem of their deleterious effects on the growth and quality of fruit. Table 16 shows the relationship of the temperature regime for the major stations in the study area to the critical temperature requirements of deciduous fruits. The respective calendar dates indicated in the table are those used by fruit growers to relate cold and warm periods to subsequent fruit production. In addition, Table 16 shows that the temperature regime for major stations varies as much or more from year to year as it does from station to station. The table shows that the same condition exists near Reedley, the heart of the valley floor fruit district. Thus the differences in temperature regime between locations in the study area are insignificant in the prediction of differences in the adaptability of tree fruit and nut crops to those various locations.

CITRUS FRUIT, particularly the varieties presently grown in the east side of the San Joaquin Valley, will do well in the study area. The internal quality

*See Amerine, M. A. and Winkler, A. J., "Grape Varieties for Wine Production", University of California Leaflet 154, March 1963.

of the fruit should equal that of fruit grown in the east side. High temperatures in the study area are somewhat greater than those of the east side. In some years, frequent May and June temperatures above 100° F. may limit fruit set. Similar temperatures elsewhere have seriously reduced crops of navel oranges; they probably will do so in the study area as well, although increased farming and irrigation may reduce the average high temperature. Total heat in the study area is such that the maturity date of most citrus varieties will be comparable to or slightly earlier than that of citrus grown in the east side. Hazardous cold of long duration in Kettleman Plain (Transect F) and Pleasant Valley near Coalinga (Transect G) apparently renders these areas unfit for successful citrus production. In general, frost hazard in the study area equals that of established citrus areas around Lindsay, Porterville, Terra Bella, and McFarland on the east side of the valley. With average slope, the frost hazard increases slightly as elevation decreases, as the flatter terrain slows air drift, and as topographical features block air drift during radiation frosts. Those intending to plant citrus orchards should spot the immediate area with minimum thermometers for a season or two prior to the planting. Citrus in all sections of the study area will require protection from frost. Orchards should be planted so as to provide maximum air flow during nights of radiation frost.

Table 14: AIR TEMPERATURE: Monthly and Annual Extremes

YEAR	MONTH	MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F																									
		STATION AND ELEVATION																									
		A-20- 109		A-25- 122		A-30- 130		A-35- 140		A-40- 150		A-45- 158		A-50- 170				Stnd 1/									
		MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1963	JAN																	73	21								
	FEB																	82	42								
	MAR.	79	32	86	35	78	34	79	33	79	36	78	36	69	36			82	38								
	APR.	74	34	77	36	74	36	75	34	76	35	79	34	73	35			80	39								
	MAY	92	40	95	42	92	42	92	40	92	43	91	41	91	44			96	49								
	JUN.	99	48	98	51	99	52	100	49	99	50	99	52	98	52			102	52								
	JUL.	99	52	101	54	100	57	100	54	100	56	98	57	99	58			102	55								
	AUG	98	51	99	55	99	56	99	52	98	53	98	54	98	56			102	58								
	SEPT	104	55	105	58	104	58	104	57	105	57	105	58	103	58			108	59								
	OCT	91	41*	93	47	92	49*	91	47*	92	48*	92	50	91	51*			96	49								
	NOV	74	31	77	33	75	33	73	33	75	35	75	35	75	38			82	34								
	DEC.	66	22	76	25	73	25	72	26	73	25	72	25	73	26			66	26								
	ANNUAL	104		105		104		104		105		105		103				108	21								
1964	JAN	64	23	67	27	63	26	63	25	64	28	67	29	62	30			70	27								
	FEB	73	27	76	28	75	29	74	30	74	34	73	32	73	35			74	30								
	MAR	86	28	86	31	86	30	90	30	83	31	84	33	83	34			89	32								
	APR	92	35	92	35	91	36	90	36	88	37	89	35	90	36			94	39								
	MAY	92	35	92	38	92	37	90	37	88	38	89	39	90	40			94	40								
	JUN	108	49	107	50	106	48	106	47	105	48	106	48	106	48			108	52								
	JUL	104	53	105	56	104	54	104	54	102	56	103	58	103	60			106	56								
	AUG	102	53	102	56	100	53	101	53	98	52	99	52	100	55			104	54								
	SEPT	97	49	98	50	97	49	98	48	95	49	96	51	95	52			98	48								
	OCT.	93	44	94	47	93	44	94	44	91	46	93	48	92	48			97	44								
	NOV	79	28	79	31	78	28	80	28	78	31	79	34	78	34			80	27								
	DEC	74	24	73	30	73	25	75	24	74	30	73	29	74	33			76	21								
	ANNUAL	108	23	107	27	106	25	106	24	105	28	106	29	106	30			108	21								
1965	JAN	70	28	70	28	68	28	69	29	68	30	68	28	67	30			74	30								
	FEB	72	26	72	27	70	27	71	28	70	30	69	30	70	32			76	27								
	MAR.	78	36*	76	37	75	38*	76	38*	76	39*	75	40	75	40*			77	36								
	APR.	94	36	93	36	94	36	94	37	92	37	92	38	91	36			95	37								
	MAY	95	36	94	37	94	38	94	38	94	41	94	41	92	42			96	37								
	JUN.	95*	46	94	47	94*	46	95*	48	93*	47	94	47	92*	47			98	46								
	JUL.	100	59	101	59	100	56	100	56	98	56	99	56	98	58			101	56								
	AUG.	101	58	99	60	99	59	99	59	97	59	99	62	97	62			101	57								
	SEPT.	89*	49	89	52	89*	51	89*	52	88*	53	88	52	88*	54			93	46								
	OCT.	94	42	92	43	92	44	92	44	92	47	90	46	90	48			95	40								
	NOV	82	32*	84	35	81	34*	82	35*	82	37*	81	35	81	38*			86	34								
	DEC	66	23	69	23	69	23	72	27	72	26	72	25	73	26			63	26								
	ANNUAL	101	23	101	23	100	23	100	27	98	26	99	25	98	26			101	26								
1966	JAN	67	25	67	28	70	28	72	29	72	30	74	31	75	32			73	27								
	FEB	70	27	71	30	69	28	69	31	68	33	69	32	67	37			74	29								
	MAR	84*	30	84	32	84*	29	85*	31	84*	33	84	32	83*	33			90	30								
	APR	91*	42	90	42	90*	41	91*	42	90*	44	88	45	88*	45			97	41								
	MAY	97	48	96	49	96	50	97	49	95	49	96	48	94	48			100	49								
	JUN.	104	45	103	49	102	45	103	47	102	49	102	48	102	49			106	48								
	JUL.	103	53	101	56	101	54	100	55	101	56	99	57	101	58			101	55								
	AUG	104	53	103	55	102	52	103	52	102	53	101	55	101	56			109	53								
	SEPT.	98	48	98	50	98	48	99	48	97	49	97	50	97	50			103	47								
	OCT	92	40	92	42	92	42	92	43	90	45	90	46	90	46			94	38								
	NOV.	90	32	90	34	89	34	89	35	88	37	88	39	86	38			91	31								
	DEC.	73	25*	71	28	72	27*	73	26*	72	29*	70	29	70	30*			67	25								
	APNUAL	104	25	103	28	102	27	103	26	102	29	102	29	102	30			109	25								
1967	JAN.	66	24	67	28	65	26	66	27	65	30	65	30	66	32			74	24								
	FEB	71	29	70	32	70	32	72	32	72	33	74	33	73	34			76	30								
	MAR	78	32	74	35	75	33	76	33	74	35	72	37	73	36			85	34								
	APR	68	36*	65	35	65	36*	66	37*	64	36*	62	36	63	36*			76	36								
	MAY	100	38*	99	39	99	38*	99	35*	98	39*	98	42	98	39*			107	40								
	JUN.	103	43	102	44	101	43	102	43	102	44	101	45	102	44			107	43								
	JUL	104	63	103	66	102	66	103	64	103	67	100	68	102	69			106	60								
	AUG	106	65	105	66	104	67	104	68	103	68	102	70	103	70			106	60								
	SEPT	96	60	95	61	96	61	96	61	94	61	94	61	94	60			95	55								
	OCT.	87	46	87	50	86	49	86	50	86	51	85	51	86	52			88	42								
	NOV	84	39*	84	41	83	39*	82	38*	82	36*	83	41	82	39*			83	33								
	DEC.	66	22	68	26	67	24	68	24	67	23	68	25	68	24			65	23								
	ANNUAL	106	22	105	26	104	24	104	24	103	23	102	25	103	24			107	23								
1968	JAN	73	26	73	26	71	23	71	23	71	28	70	25	71	24												
	FEB	75*	30*	75	35	75*	32*	74*	34*	75*	33*	74	38	76*	33*												
	MAR	83	36	82	39	82	37	81	38	81	39	81	41	81	40												
	APR.	89	40	88	43	88	42	88	42	87	41	88	43	87	44												
	MAY	93	43	91	45	93	44	92	45	91	45	92	44	90	45												

*Approximate value, determined by projection from major station.
1/ Kern County Land Company Citrus Station. Elevation: 660 feet.

Table 14. AIR TEMPERATURE: Monthly and Annual Extremes (continued)

YEAR	MONTH	MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F																									
		Taft Radio KTKR 1/				STATION AND ELEVATION																					
		HIGH		LOW		B-20-040		B-25-050		B-30-060		B-35-070		B-40-080		B-45-090		B-50- 100		B-55- 110		B-60- 120					
		MAX	AV	MIN.	AV	MAX.	MIN.	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1963	JAN	70	55	17	30																						
	FEB	81	66	41	47																						
	MAR	79	65	32	42																						
	APR	78	63	29	43																						
	MAY	94	80	47	55	94	45	97	47	96	48	95	48	94	50	94	48	94	45	95	47	94	47				
	JUN	102	86	52	60	105	52	104	52	104	53	106	53	103	56	102	54	101	54	101	52	100	54				
	JUL.	103	94	56	65	105	53	105	58	105	58	104	59	103	61	102	60	101	59	103	57	102	60				
	AUG.	102	88	51	63	104	51	105	56	105	56	104	60	104	60	103	58	102	58	103	58	101	59				
	SEPT.	104	88	51	63	103	55	109	59	110	58	111	60	108	61	107	60	108	59	107	57	105	60				
	OCT	96	76	48	56	96	43	97	47*	96	48*	95	48	96	50*	94	50*	94	50*	94	51	93	52*				
	NOV	76	62	35	43	75	34	76	34	76	34	76	35	75	37	75	36	73	35	74	37	74	38				
	DEC.	61	48	26	32	62	25	62	22	63	24	59	27	59	26	60	26	64	27	68	29	69	30				
	ANNUAL	104	73	17	50	108		109		110		111		108		107		108		107		105					
1964	JAN	65	54	22	34	67	25	67	25	67	26	67	27	66	30	65	30	64	31	64	29	63	32				
	FEB	73	61	31	36	75	30	76	29	76	30	76	30	75	31	73	30	72	32	76	35	73	35				
	MAR	85	64	32	40	88	27	89	27	89	29	89	32	88	31	88	30	87	32	88	35	86	35				
	APR	92	70	36	46	91	37	94	37	95	38	93	40	94	40	92	39	92	38	92	40	91	40				
	MAY	92	77	38	50	96	40	95	40	95	42	95	43	96	43	94	40	93	40	93	42	92	42				
	JUN	107	88	44	60	112	53	110	53	111	52	109	54	109	54	110	52	108	52	108	52	106	53				
	JUL	107	95	57	66	111	57	108	59	109	58	108	61	108	60	107	59	106	59	106	59	106	60				
	AUG.	102	96	53	66	105	59	104	59	105	59	104	60	105	59	102	57	102	56	102	56		56				
	SEPT	98	86	50	57	100	48	101	52	101	53	99	54	101	54	99	53	99	52	99	54	97	52				
	OCT.	94	83	44	56	97	45	98	48	98	47	97	50	97	48	96	48	95	48	95	49	94	48				
	NOV	78	60	31	40	77	27	75	29	76	30	75	31	76	32	73	31	72	31	74	34	71	32				
	DEC.	75	59	26	40	77	21	77	18	76	21	73	24	74	28	76	28	75	30	74	32	74	30				
	ANNUAL	107	75	22	49	112	21	110	18	111	21	109	24	109	28	110	28	108	30	108	29	106	30				
1965	JAN	68	54	30	37	70	30	70	30	71	31	68	32	69	32	69	30	69	30	69	32	67	31				
	FEB	74	60	27	37	75	29	74	28	73	31	73	32	72	32	72	31	71	31	72	34	70	31				
	MAR	80	66	39	44	82	36	82	36*	82	36*	81	39	81	38*	81	38*	80	39*	81	39	78	40*				
	APR	94	68	37	48	97	37	96	37	96	37	95	39	96	39	95	39	95	39	95	37	93	39				
	MAY	96	80	40	52	99	42	99	42	99	41	96	40	99	44	97	44	97	44	96	43	95	43				
	JUN	96	84	45	56	98	47	99*	53	100*	51	98	51	99*	49	98*	49	97*	48	97	48	96*	48				
	JUL.	103	94	56	65	105	54	104	61	104	61	104	61	103	60	103	60	101	60	101	59	100	59				
	AUG.	100	94	57	65	102	56	101	62	102	61	101	63	101	61	100	63	100	63	99	63	99	62				
	SEPT	93	83	48	55	96	48	96*	50	95*	51	94	51	94*	52	94*	54	92*	53	94	55	91*	54				
	OCT	94	82	39	57	95	41	96	43	96	42	94	44	94	45	94	46	93	45			92	46				
	NOV	85	66	33	45	85	33	83		84	33*	83	34	83	32*	82	32*	82	33*			82	33*				
	DEC	62	49	25	31	66	25	65	26	64	28	63	27	64	26	64	25	64	22			64	23				
	ANNUAL	103	73	25	49	105	25	104	26	104	28	104	27	103	26	103	25	101	22	101		100	23				
1966	JAN	63	54	30	34	67	25	67	27	67	28	65	28	65	30	64	30	64	30	62	32	62	31				
	FEB	75	56	30	37	71	27	78	29	77	30	78	31	78	30	75	31	75	31	75	32	74	32				
	MAR	82	63	31	44	88	28	88*	29	88*	31	87	31	87*	31	86*	32	86*	31	84	33	84*	32				
	APR	91	79	44	54	93	37	93*	39	94*	42	93	42	92*	43	92*	43	91*	44	90	46	90*	44				
	MAY	100	85	49	57	102	47	101	47	104	49	101	49	100	50	99	49	99	48	97	49	97	48				
	JUN.	106	90	47	63	108	46	107	47	108	50	108	50	106	49	106	50	105	48	105	51	104	49				
	JUL.	105	94	56	66	107	53	106	58	108	60	106	61	106	61	105	60	104	59	103	56	103	59				
	AUG	106	99	54	69	109	50	108	53	109	56	108	58	107	58	106	57	105	57	105	57	105	55				
	SEPT	100	86	59	60	104	45	102	51	102	51	103	51	101	51	101	52	100	52	100	52	100	50				
	OCT.	91	78	43	54	96	40	94	41	94	44	93	45	93	45	92	45	92	44	91	47	90	44				
	NOV	90	68	36	47	90	31	94	32	94	34	92	36	93	36	92	37	90	37	90	38	89	37				
	DEC.	67	52	27	37	71	25	72	24*	72	26*	72	28	72	28*	72	27*	71	28*	69	29	70	29*				
	ANNUAL	106	75	27	52	109	25	108	24	109	26	108	28	107	28	106	27	105	28	105	29	105	29				
1967	JAN	66	56	25	34	68	24	68	22	68	25	69	25	68	24	67	26	67	25	66	27	65	27				
	FEB	75	59	32	38	72	31	74	31	74	33	75	33	74	32	73	32	71	32	71	35	70	32				
	MAR	75	67	38	44	77	33	81	33	83	35	80	35	79	36	78	36	77	36	75	37	76	36				
	APR	66	59	34	41	69	34	70	34*	71	35*	70	36	69	36*	67	37*	66	36*	65	39	66	36*				
	MAY	102	81	41	57	104	41	103	42*	104	43*	103	44	102	44*	101	44*	100	42*	100	43	99	41*				
	JUN.	103	87	47	60	105	45	106	50	105	50	105	51	105	50	103	50	104	49	103	49	104	48				
	JUL.	106	100	66	73	108	61	108	66	107	67	106	68	107	67	105	68	105	68	105	69	104	67				
	AUG.	106	102	68	74	108	63	109	68	108	67	107	69	107	68	105	69	105	69	106	65	104	70				
	SEPT	105	91	58	66	96	59	99	62	99	64	98	64	98	62	97	63	96	62	97	61	94	61				
	OCT	86	81	48	56	92	44	92	47	93	49	92	49	93	49	93	50	93	50	93	52	90	48				
	NOV.	83	68	36	49	85	37	84	39*	84	39*	82	38	83	38*	83	39*	83	37*	83	39	82	37*				
	DEC	63	53	24	34	64	25	66	27	64	26	63	27	63	26	63	26	63	25	62	26	64	24				
	ANNUAL	106	75	24	52	108	24	109	22	108	25	107	25	107	24	105	26	105	25	106	26	104	24				
1968	JAN.	72	55	25	33	68	27	69	29	70	29	69	30	68	30	67	28	68	27	66	27	66	24				
	FEB	73	64	33	47	77	32	77*	35*	78*	34*	77	36	77*	34*	76*	35*	77*	36*	75	37	76*	34*				
	MAR	85	69	40	47	86	37	86	37	86	37	84	40	85	39	84	39	84	38	83	40	83	38				
	APR	90	76	38	50	92	42	92	43	92	40	91	42	91	42	91	42	90	42	89	42	89	40				
	MAY	96	81	43	55	97	46	97	45	97	42	97	44	96	45	95	46	95	46	94	46	94	43				

* Approximate value, determined by projection from major station.

1/ Elevation 1030 feet.

Table 14: AIR TEMPERATURE: Monthly and Annual Extremes (continued)

YEAR	MONTH	MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F																									
		STATION AND ELEVATION																									
		C-10-030		C-15-035		C-20-040		C-25-045		C-30-050		C-35-050		C-40-070		C-45-080		C-50-090		C-55-100		C-60-108		C-65-118			
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
1963	JAN																										
	FEB																										
	MAR.	81	32	80	33	80	32	79	33	80	33	80	32	80	33	78	34	79	33	79	33	77	33	77	32		
	APR.	84	33	82	32	83	32	81	32	82	32	81	33	81	33	80	36	80	35	79	35	81	33	76	37		
	MAY	98	44	98	43	98	44	98	44	97	44	98	45	99	49	94	47	96	48	96	48	93	45	93	49		
	JUN.	106	51	105	48	105	50	105	49	106	50	105	53	105	54	102	55	104	55	104	53	103	55	101	53		
	JUL.	106	52	104	51	103	53	104	53	105	55	104	55	105	57	103	58	105	56	105	56	101	55	102	56		
	AUG.	104	55	103	53	103	55	104	52	103	51	105	53	104	51	103	56	104	56	105	55	104	53	102	54		
	SEPT	106	54	106	55	106	56	107	56	106	57	106	56	106	58	104	58	106	58	105	57	106	57	102	59		
	OCT	97	44*	97	45*	97	44	98	45*	97	47*	98	47*	98	49	95	48*	97	48*	96	4[illegible]*	95	47	94	4[illegible]*		
	NOV	78	32	76	34	76	34	76	33	76	33	76	34	76	36	74	36	75	35	77	36	76	35	75	36		
	DEC.	66	23	65	21	63	23	65	22	63	21	61	21	60	25	61	29	62	28	67	26	65	26	66	28		
	ANNUAL	106		106		106		107		106		106		106		104		106		105		106		102			
1964	JAN	68	25	67	25	66	25	66	23	67	25	68	25	67	27	65	28	64	28	65	28	63	29	62	31		
	FEB.	75	27	75	27	74	28	73	26	75	28	74	27	73	33	72	30	72	30	72	30	70	29	70	29		
	MAR.	86	28	88	28	86	27	87	26	89	27	88	28	86	30	86	30	85	31	86	30	82	31	84	29		
	APR.	96	36	96	37	95	35	96	34	97	35	96	33	94	34	94	36	94	35	94	34	91	35	91	34		
	MAY	97	35	97	36	97	35	97	36	98	36	97	36	96	38	95	39	95	38	96	37	92	37		36		
	JUN	110	51	111	51	110	50	110	49	112	49	111	49	109	51	110	51	110	51	110	51	106	51	107	49		
	JUL	110	57	111	56	111	56	110	54	111	57	110	55	110	57	109	58	108	58	109	58	108	56	106	56		
	AUG.	104	57	105	56	104	55	104	54	106	55	105	54	103	56	104	55	103	55	104	55	101	54	102	55		
	SEPT	100	50	101	50	100	50	101	49	103	48	102	48	101	50	101	51	100	51	100	50	99	50	99	50		
	OCT.	97	43	98	45	96	45	97	41	98	44	98	43	97	45	96	48	97	48	96	46	94	48	94	47		
	NOV	77	25	77	26	76	26	75	24	76	27	77	27	75	29	73	31	73	31	74	30	73	31	74	31		
	DEC.	76	26	76	25	77	25	75	24	77	25	76	23	75	22	74	24	74	26	74	26	73	30	73	29		
	ANNUAL	110	25	111	25	111	25	110	23	112	25	111	23	110	22	110	24	110	26	110	26	108	29	107	29		
1965	JAN	70	28	72	29	72	28	69	28	70	29	68	28	67	28	68	31	68	30	70	29	67	31	67	29		
	FEB	77	27	78	28	75	28	75	25	78	26	78	26	76	31	75	26	75	27	76	25	73	27	73	27		
	MAR.	83	33*	84	33*	83	35	82	35*	84	36*	83	35*	79	39	80	37*	80	38*	80	35*	78	40	79	40*		
	APR	96	35	97	35	96	35	96	37	97	33	97	35	95	36	95	37	95	36	94	34	92	37	92	37		
	MAY	100	36	101	36	100	39	100	36	101	37	101	38	98	38	99	38	98	39	98	38	96	40	96	39		
	JUN.	101*	45	101*	44	99	45	101*	43	103*	44	103*	44	99	46	100*	46	102*	48	9[illegible]*	47	97	47	97*	45		
	JUL.	104	57	105	56	104	55	104	56	106	57	105	57	104	57	104	58	104	58	104	57	103	57	102	56		
	AUG	101	60	103	58	103	57	101	59	103	60	104	59	103	61	102	61	102	62	102	61	101	61	101	60		
	SEPT	94*	49	95*	49	95	47	95*	49	97*	51	95*	50	96	54	94*	53	94*	54	95*	53	92	54	93*	52		
	OCT.	95	39	96	40	96	40	96	38	98	39	97	41	96	44	95	44	95	43	95	41	92	42	93	43		
	NOV	78	33	79	32		31	80	31	82	33*	82	33*	81	33	80	33*	81	31*	82	34*	79	35	80	37*		
	DEC	64	26	64	26	64	24	62	24	63	25	64	25	62	25	62	22	61	20	62	20	63	26	62	27		
	ANNUAL	104	26	105	26	104	24	104	24	106	25	105	25	104	25	104	22	104	20	104	20	103	26	102	27		
1966	JAN	65	25	66	25	65	24	65	25	65	26	65	27	64	28	63	28	62	28	63	28	58	29	62	29		
	FEB	75	28	76	29	76	24	75	27	77	29	76	28	74	30	74	29	73	30	73	30	72	31	70	32		
	MAR.	88*	26	89*	26	87	24	88*	26	89*	28	88*	28	86	29	87*	29	88*	29	88*	27	86	29	86*	30		
	APR.	95*	40	95*	39	94	39	95*	40	96*	40	96*	41	93	41	93*	43	95*	42	94*	42	91	42	91*	43		
	MAY	103	49	103	46	102	47	102	48	103	48	103	47	100	47	100	48	101	48	100	47	96	48	99	47		
	JUN.	110	47	111	45	110	47	110	46	111	46	109	46	109	47	107	47	107	48	108	47	102	47	105	45		
	JUL.	106	55	107	54	104	55	107	54	107	55	107	55	107	55	106	56	106	56	106	56	103	55	107	55		
	AUG	106	51	107	52	107	51	107	50	109	51	109	51	107	52	107	53	107	54	106	53	105	53	105	53		
	SEPT	101	47	102	46	101	47	102	46	104	48	103	47	101	49	102	50	102	50	101	50	99	51	99	49		
	OCT.	92	38	94	40	92	38	93	39	93	42	93	41	92	44	91	42	90	42	91	45	90	45	89	43		
	NOV	87	30	89	31	88	29	86	30	90	32	88	32	86	35	86	34	86	35	85	36	86	36	84	37		
	DEC.	71	25*	70	27*	69	26	68	26*	69	28*	68	29*	67	33	66	30*	65	29*	66	29*	65	30	64	29*		
	ANNUAL	110	25	111	25	110	24	110	25	111	26	109	27	109	28	107	28	107	28	108	27	105	29	107	29		
1967	JAN	66	24	67	23	66	24	66	24	67	25	66	25	65	24	65	25	65	24	64	26	65	27	63	27		
	FEB	73	30	74	31	72	28	72	30	75	31	74	32	74	32	73	33	74	32	74	34	71	32	71	34		
	MAR	76	33	77	31	76	28	75	30	77	33	76	33	75	33	74	34	74	33	74	32	77	30	74	33		
	APR	72	33	72	33	72	32	70	31		32	69	33	67	32	68	34*	68	33*	68	33*	65	33	65	34*		
	MAY	105	38*	106	38*	105	38	105	36*	107	37*	105	36*	105	40	104	40*	104	36*	103	[illegible]*	101	41	102	4[illegible]*		
	JUN.	106	47	108	47	107	45	108	49	110	49	109	49	108	50	107	49	108	50	107	49	105	47	106	49		
	JUL	108	63	108	62	109	61	109	62	111	63	110	63	109	65	109	64	108	64	107	63	105	62	106	64		
	AUG	109	64	110	64	110	63	110	61	112	64	110	66	111	68	110	67	109	68	109	67	108	66	107	66		
	SEPT	100	59	101	61	100	60	100	60	100	59	101	61	99	62	100	62	99	63	97	62	96	62	96	60		
	OCT.	91	43	93	44	91	42	91	41	92	44	92	45	89	47	90	47	90	47	89	48	87	47	88	47		
	NOV	86	38*	85	37*	85	35	85	36*	84	36*	85	37*	84	35	84	37*	83	37*	82	37	88	34	81	36*		
	DEC.	63	23	63	23	64	25	62	22	63	22	63	23	63	23	64	24	63	23	64	24	63	22	63	22		
	ANNUAL	109	23	110	23	110	24	110	22	112	22	110	23	111	23	110	24	109	23	109	24	108	22	107	22		
1968	JAN	69	27	69	27	70	25	69	23	69	24	68	24	70	25	68	26	68	26	67	26	69	26	69	26		
	FEB	7[illegible]*	33*	75*	32*	75	32	75*	32*	75*	33*	75*	33*	74	34	76*	35	74*	36	74*	37	74	35	73*	36		
	MAR.	86	35	86	36	85	36	85	34	86	37	86	38	84	39	85	39	84	39	84	39	83	39	83	39		
	APR.	93	35	93	35	92	36	92	36	92	37	92	38	93	39	90	38	91	38	89	37	89	39	89	40		
	MAY	98	43	99	42	99	42	99	43	98	44	98	44	98	47	97	47	97	48	97	47	96	46	95	46		

*Approximate value, determined by projection from major station.

Table 14: AIR TEMPERATURE: Monthly and Annual Extremes (continued)

YEAR	MONTH	MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F																									
		STATION AND ELEVATION																									
		D-05-038		D-10-040		D-15-045		D-20-050		D-25-055		D-30-060		D-35-070		D-40-080		D-45-090		D-50- 100		D-55- 110		D-60- 120			
		MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1963	JAN															69	17										
	FEB															82	43										
	MAR			80		75		81	33	82	33	82	33	80		79	34	78		77		77		77			
	APR			81	34	81	35	81	34	82*	34	81*	35	82	36	82	37	80	36	82	35	80	36	79*	36		
	MAY	99	45	98	44	97	43	97	43	98	46	97	46	96	46	97	47	97	46	96	47	94	47	94	48		
	JUN	107	56	106	54	106	55	105	54	106	54	105	55	105	55	103	53	104	54	103	54	98	54	101	55		
	JUL	109	61	106	58	106	60	106	59	107	58	106	58	105	57	103	58	106	59	105	59	101	56	103	58		
	AUG	109	55	107	57	106	58	107	55	108	56	107	57	105	58	103	58	106	57	104	52	101	55	102	57		
	SEPT	109	60	107	57	107	59	107	57	108	59	106	59	105	59	104	60	106	60	105	59	100	55	104	58		
	OCT	98	49	97	48	97	48	97	47	99	49	97	50	97	47*	96	48	97	48*	96	48*	93	47	94	51*		
	NOV	81	38	78	34	77	35	77	33	78	34	78	36	76	35	76	34	76	36	75	36	74	36	75	34		
	DEC	60	29	59	26	58	25	59	23	61	24	62	25	65	25	61	26	65	29	63	29	63	28	66	28		
	ANNUAL	109		107		107		107		108		107		105		104	17	106		105		101		104			
1964	JAN	67	29	66	26*	65	27*	65	26*	66	27*	65	28*	66	28*	63	27	64	28*	63	28*	62	28	63	25*		
	FEB	78	29	75	30	75	30	75	28	76	31	74	31	74	31	72	32	72	31	71	30	70	30	70	34		
	MAR	89	32	88	28	88	29	86	27	87	28	86	30	86	29	83	28	84	28	83	29	82	31	84	34		
	APR	96	40	95	36	96	36	94	37	94	39	95	39	94	39	93	36	94	36	93	35	91	36	92	39		
	MAY	99	43	97	40	97	41	97	39	96	38	98	39	95	41	95	39	94	39	94	40	93	40	93	41		
	JUN	111	54	112	52	111	52	110	52	110	52	110	52	109	52	108	51	108	51	108	51	107	50	107	50		
	JUL	111	57	110	57	111	58	109	57	110	58	110	58	110	58	107	59	109	58	106	58	106	57	107	58		
	AUG	106	59	107	55*	107	56*	106	55*	106	56*	106	55*	105	56*	105	57	104	55*	106	55*	101	57	102	54*		
	SEPT	104	55	103	50	102	51	102	50	102	52	101	51	100	53	100	53	100	52	99	51	95	51	99	52		
	OCT	98	48	97	47	97	47	95	46	96	47	95	47	95	47	96	49	94	49	93	49	94	50	92	50		
	NOV	76	28	76	28	76	28	73	27	74	29	75	29	73	30	74	33	74	31	74	29	74	32	74	34		
	DEC	75	30	74	27	74	27	74	27	74	27	73	24	74	24	73	25	73	27	72	27	72	28	72	32		
	ANNUAL	111	28	112	26	111	27	110	26	110	27	110	24	110	24	108	25	109	27	108	27	107	26	107	25		
1965	JAN	68	29	67	30	66	30	67	29	68	31	67	31	67	31	67	31	68	31	68	31	68	30	68	32		
	FEB	76	28	76	26	76	28	75	26	76	29	75	28	75	27	72	29	74	29	74	28	73	27	74	32		
	MAR	82	37	81	38*	81	39*	80	37*	80	39*	80	39*	80	39*	79	41	78	41*	79	41*	77	39	78	44*		
	APR	96	40	96	38	95	37	95	37	95	38	98	36	95	35	93	35	94	35	92	37	93	39	92	37		
	MAY	100	38	101	39	101	39	99	38	100	38	99	37	98	39	96	41	98	41	97	41	96	40	96	43		
	JUN	101	48	99*	48	100*	49	99*	49	99*	48	99*	48	99*	47	96	48	98*	49	98*	49	96	49	96*	49		
	JUL	107	58	107	59	106	59	105	58	106	60	105	60	105	59	103	59	104	58	103	59	103	58	103	59		
	AUG	106	61	106	61	105	62	105	61	104	62	104	62	103	62	102	62	103	63	102	63	101	62	101	62		
	SEPT	96	50	96*	47	96*	48	95*	48	95*	50	95*	52	94*	53	92	54	94*	53	93*	53	91	53	92*	56		
	OCT	98	40	97	40	98	40	96	40	97	43	95	41	95	41	93	44	95	45	94	45	94	44	92	47		
	NOV	82	31	80*	31*	81*	33*	80*	33*	80*	35*	83*	35*	82*	35*	81	37	82*	37*	80*	37*	80	37	79*	40*		
	DEC	62	27	63	27	62	28	62	26	61	28	61	29	61	28	59	25	61	22	60	23	61	22	60	28		
	ANNUAL	107	27	107	26	106	28	105	26	106	28	105	28	105	27	103	25	104	22	103	23	103	22	103	28		
1966	JAN	64	27	65	27	64	27	64	26	64	28	63	29	63	28	62	29	62	29	62	29	61	29	62	31		
	FEB	75	29	76	28	75	28	75	28	74	29	76	30	74	30	74	31	73	30	72	31	72	31	71	33		
	MAR	88	30	88*	25	89*	27	88*	26	88*	27	88*	28	87*	28	85	30	87*	29	86*	29	85	29	85*	32		
	APR	95	42	94*	38	95*	39	94*	39	95*	40	96*	41	95*	43	94	44	94*	43	93*	43	91	43	93*	44		
	MAY	102	49	101	48	100	47	99	48	100	47	99	48	99	48	100	50	99	49	99	48	98	47	98	47		
	JUN	110	50	110	47	109	47	109	46	110	48	109	48	108	48	107	50	107	49	106	48	106	46	105	49		
	JUL	109	57	109	56	108	56	108	54	109	56	108	56	108	56	106	58	106	59	106	57	105	57	105	59		
	AUG	111	56	110	53	111	53	109	52	109	54	109	53	107	53	107	53	108	54	107	52	107	51	106	54		
	SEPT.	104	51	104	48	104	49	103	49	104	50	103	49	102	50	100	51	102	51	102	50	100	50	100	51		
	OCT	94	41	92	40	93	41	92	39	93	41	91	42	91	41	88	42	90	41	90	43	89	42	89	44		
	NOV	86	35	86	33	87	34	87	32	86	34	85	34	86	34	82	35	86	34	86	33	85	33	85	38		
	DEC.	69	26	68	26*	68	26*	68	24*	67	25*	67	27*	66	28*	65	29	65	30*	65	31*	64	29	64	32*		
	ANNUAL	111	26	110	25	111	26	109	24	110	25	109	27	108	28	108	29	108	29	107	29	107	29	106	31		
1967	JAN	64	28	64	27	65	26	65	26	64	26	65	26	65	25	65	25	65	25	64	26	63	26	64	29		
	FEB	74	29	74	29	74	29	75	28	74	31	74	31	74	31	68	32	74	31	74	32	70	32	71	32		
	MAR	76	33	77	33	78	33	76	32	76	33	76	33	76	34	73	32	74	33	75	33	75	32	77	35		
	APR.	68	37	71	36	70	36	70	36	69	36	68	36	69	36	64	34	66	35	66	35	66	34	64	36		
	MAY	104	43	105	40*	105	40*	104	40*	104	41*	104	40*	103	40*	102	40	103	39*	102	39*	102	40	102	42*		
	JUN.	109	49	109*	49	111*	54	109*	48	109*	50	108*	50	107*	50	107	50	107*	50	106*	50	106	47	106*	48		
	JUL	111	64	110	64	109	65	108	65	109	66	108	66	107	65	107	66	107	67	106	66	105	67	106	67		
	AUG	113	66	110	65	111	66	110	65	110	65	110	65	108	66	108	65	108	68	107	68	107	66	105	71		
	SEPT.	100	63	100	62	102	63	101	63	100	62	100	62	100	62	98	61	98	63	98	62	97	65	98	62		
	OCT.	91	47	89	46	90	46	90	46	90	46	90	46	90	46	87	48	89	46	89	48	86	48	88	51		
	NOV	84	40	84	40*	85	40*	86	40*	84	40*	84	39*	84	40*	81	39	81	39*	82	39*	82	37	82	41*		
	DEC	63	24	62	24	62	24	61	25	62	25	63	24	63	24	61	25	65	23	64	24	64	25	64	25		
	ANNUAL	119	24	110	24	111	24	110	25	110	25	110	24	108	24	108	25	108	23	107	24	107	25	106	25		
1968	JAN.	69	29	69	26	69	24	69	27	68	26	68	26	68	26	67	29	68	26	68	25	70	26	69	26		
	FEB.	76	35	79*	33*	79*	34*	79*	34*	79*	33*	80*	33*	79*	35*	78	36	78*	36*	79*	34*	75	36	78*	38*		
	MAR	83	39	86	35	86	36	86	35	86	36	86	37	86	38	85	39	85	39	84	38	85	39	84	41		
	APR.	92	40	94	37	92	37	92	39	92	40	94	39	92	39	89	41	89	40	90	39	88	40	88	42		
	MAY	101	46	99	43	98	44	99	46	99	46	99	46	98	45	97	48	96	46	96	47	95	48	95	47		

*Approximate value, determined by projection from major station.

Table 14: AIR TEMPERATURE: Monthly and Annual Extremes (continued)

YEAR	MONTH	MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F																									
		STATION AND ELEVATION																									
		E-20-030		E-25-040		E-30-050		E-35-060		E-40-070		E-45-080		E-50-072		E-55-080		E-60-090		E-65- 100		E-70- 110		E-75- 120			
		MAX	MIN.	MAX	MIN.	MAX	MIN.	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN.	MAX	MIN.	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN.	MAX	MIN.
1963	JAN																										
	FEB																										
	MAR.																										
	APR																										
	MAY																										
	JUN.																										
	JUL.																										
	AUG																										
	SEPT	108	56	106	55	107	56	107	57	106	57	106	57			103	56	106	55	107		106	57	105			
	OCT.	96	41	96	44	96	43	96	43	97	41	96	43			94	40	97	40	98	43	97	44	99	41		
	NOV	77	31	76	31	76	34	75	32	77	32	76	33			74	31	76	32	75		76	33				
	DEC.	56	23	56	24	58	22	60	20	60	20	60	20			62	19	65	24			65	25				
	ANNUAL																										
1964	JAN	64	24	64	24	64	25*	63	26*	63	26	62	28*			62	26*	67	27*	66	26*	66	28	66	29		
	FEB	69	25	73	24	74	27	72	27	72	29	71	30	72	30		27	72	29	70	32	70	31	72	28		
	MAR	86	30	87	27	86	27	87	27	86	28	85	30	85	28	85	29	87	32	84	31	83	31	84	30		
	APR	94	38	94	36	94	37	93	36	94	35	92	36	93	37	92	36	94	38	91	37	93	36	92	36		
	MAY	96	38	97	38	96	40	95	39	96	39	94	38	94	40	92	36	96	38	93	37	93	37	93	36		
	JUN	109	51	109	50	110	51	109	50	110	49	109	49	109	50	107	47	110	50	108	48	108	47	108	47		
	JUL	109	57	109	56	108	55	108	53	108	53	107	52	107	55	106	51	108	52	107		107	48	107	50		
	AUG	105	57*	106	56	105	56*	104	54*	106	54	104	53*	105	54*	103	51*	107	52*	104	51*	104	52	104	52*		
	SEPT.	101	51	102	49	101	50	100	49	99	49	100	48	100	49	99	49	101		100	48	101	48	102	48		
	OCT	96	46	96	47	96	47	95	45	95	45	94	47	95	46	94		96	47	95	45	94	47	96	46		
	NOV	74	26	73	28	74	29	74	26	73	27	74	28	76	28	74	28	74	29	73	28	74	32	74	29		
	DEC	74	30	72	29	73	27	71	22	72	23	72	20		20	71	21		24	70	27	70	29	69	28		
	ANNUAL	109	24	109	24	110	25	109	22	110	23	109	20	109		107	21	110	24	108	26	108	28	108	28		
1965	JAN.	66	27	65	28	68	30	68	28	70	29	68	29	67	27	68	27	68	28	65	28	64	29	64	28		
	FEB	76	26	73	28	74	28	74	24	76	27	74	28	75	30	76	29	80	30	79	29	78	30	78	29		
	MAR	80	36*	80	36	81	36*	78	31*	78	34	78	37*	77	33*	78	35*	80	35*	77	32*	76	37	78	33*		
	APR	95	36	96	37	96	36	93	36	95	36	94	37	93	38	93	36	93	38	93	37	92	36	93	35		
	MAY	101	41	100	41	99	40	98	40	98	40	98	41	96	42	98	40	96	42	96	41	96	39	98	37		
	JUN.	101*	47	100	47	101*	47	98*	47	98	47	97*	48	96*	49	98*	48	99*	50	98*	48	96	47	99*	45		
	JUL.	107	58	107	59	106	58	105	56	106	55	104	55	103	54	104	54	102	56	103	56	104	52	104	52		
	AUG.	106	60	106	61	104	60	104	59	105	59	104	59	103	58	103	58	104	58	102	56	105	54	105	54		
	SEPT.	96	46	97	47	95	49	96	48	94	48	96	49	95	48	96	48	95	49	94	46	96	51	95	47		
	OCT.	99	42	97	42	95	43	97	44	97	44	96	44	95	43	96	44	95	45	95	44	95	44	95	43		
	NOV	83*	30	82	32	81*	33	84*	34	83	32	82*	34	81*	33	83*	32	81*	35	79*	34	80	35	80*	36		
	DEC.	60	24	60	25	60	27	60	26	63	24	62	21	62	23	64	21	62	22	61	23	61	22	63	22		
	ANNUAL	107	24	107	25	106	27	105	24	106	24	104	21	103	23	104	21	104	22	103	23	105	22	105	22		
1966	JAN	65	23	64	25	63	27	64	26	62	26	62	27	61	27	63	25	63	26	63	25	61	26	62	27		
	FEB	76	27	77	26	74	27	76	27	74	27	73	28	73	27	74		74	26	74	26	73	28	74	29		
	MAR.	89*	26	87	24	88*	26	86*	24	88	26	86*	25	86*	25	86*	25	88*	26	81*	25	86	28	89*	27		
	APR	97	40	95	38	95	37	95	36	94	38	96	40	95	36	95	37	95	39	94	39	93	43	95	42		
	MAY	100	45	100	46	99	46	99	44	98	45	98	45	98	43	97	43	98	47	98	46	97	45	96	44		
	JUN.	108	48	110	43	108	46	109	44	109	44	108	47	107	44	107	44	107	48	107	46	108	46	104	44		
	JUL.	110	54	109	53	108	56	108	53	107	53	108	54	109	52	107	53	108	54	106	53	106	51	106	52		
	AUG	110	51	111	51	110	52	109	52	111	55	110	52	110	51	108	51	109	54	108	52	108	51	107	51		
	SEPT.	105	50	104	45	103	48	103	50	103	51	103	49	103	48	102	47	102	46	101	47	100	48	101	48		
	OCT.	94	38	93	40	92	39	93	38	93	40	92	41	93	39	92	38	92	36	92	38	90	42	91	40		
	NOV	87	33	87	32	87	33	88	33	89	34	87	35	88	32	87	32	87	33	87	32	87	36	88	34		
	DEC.	68	25*	68	25		25*	67	29*	65	29	67	26*	65	27*	66	26*	65	29*	64	28*	63	30	62	29*		
	ANNUAL	110	23	111	24	110	25	109	24	111	26	110	25	110	25	108	25	109	26	108	25	108	28	107	27		
1967	JAN	64	25	62	24	63	25		24	63	24	63	22	63	23	64	23	66	23	66	26	65	27	67	27		
	FEB	76	26	75	24	74	27	74	26	75	26	76	30	75	27	75	26	75	28	74	27	72	38	74	31		
	MAR	76	32	74	32	74	31	74	32	74	30	74	33	73	32	73	29	72	34	72	32	71	34	72	32		
	APR.	70	33	69	33	71		68	33	67	33	65	33	65	32	65	30	65	33	66	32	64	33	65	32		
	MAY	105	36*	105	42	104	36*	104	37*	103	40	104	38*	103	38*	103	36*	103	40*	103	39*	102	39	102	39*		
	JUN.	108*	49	109	47	107*	48	108*	48	106	47	108*	47	107*	47	106*	46	108*	45	109*	45	106	46	109*	44		
	JUL.	110	64	110	59	109	63	109	64	108	61	109	63	109	63	107	61	109	62	109	61	106	60	109	59		
	AUG.	113	69	112	65	109	66	109	66	108	65	107	65	108	65	108	64	109		107	64	106	63	109	62		
	SEPT.	102	64	100	60	101	62	100	62	100	59	98	61	99	59	99	58	99	57	98	58	96	58	98	57		
	OCT.	93	46	88	44	89	44	90	45	89	44	88	47	88	44	88	43	89	41	88	44	87	44	89	44		
	NOV	88	37*	84	34	84	34*	83	36*	83	36	83	38*	84	37*	83	36*	84	38*	85	37*	86	37	85	39*		
	DEC.	68	21	63	19			65	22	63	19	64	21	64	18	63	17	68	14	62	20	61	20	63	21		
	ANNUAL	113	21	112	19	109		109	22	108	19	109	21	109	18	108	17	109	14	109	20	106	20	109	21		
1968	JAN.	70	23	68	24	68	27	69	26	69	25	68	26	68	24	70	25	71	23	71	23	72	25	72	26		
	FEB.	77*	32	76	31	77*	34	75*	34	71	34	76*	34	76*	34	76*	34	76*	34	75*	36	74	36	75*	35		
	MAR	85	38	84	36	86		85	38	86	35	86	39	86	38	85	36	83	34	85	35	84	37	85	36		
	APR.	93	38	89	36			98	40	92	38	90	41	90	41	90	38	69	39	89	38	88	38	90	36		
	MAY	100	46	99	42			98	44	98	44	98	45	96	44	98	43	97	42	98	41	97	40	97	38		

*Approximate value, determined by projection from major station.

Table 14: AIR TEMPERATURE: Monthly and Annual Extremes (continued)

YEAR	MONTH	MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F																							
		STATION AND ELEVATION																							
		F-05-021		F-10-023		F-15-028		F-20-050		F-25-070		F-30-090		F-40-070		F-45-060		F-50-050		F-55-060		F-60-070		F-65-090		F-70-080	
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
1963	JAN.																										
	FEB.																										
	MAR.																										
	APR.																										
	MAY													96	44	97	39	96	33	96		97		96		96	
	JUN.													103	53	106	53	107	45	104	53	104	51	104	52	104	52
	JUL.													103	53*	106	53*	106	51	106	53*	106	53*	104	55*	104	55*
	AUG.													105	54	106	53	106	47	105	54	104	55	105	56	104	55
	SEPT													104	59	106	57	108	52	107	57	106	57	105	57	104	58
	OCT.													95*	45	98*	40	98	35	97*	42	97*	42	96*	50	96*	46
	NOV													75	34	77	32	77	28	76	32	75	32	74	34	74	32
	DEC.													64	23	64	21	62	20	60	23	65	25	65	24	66	22
	ANNUAL													105		106		108		107		106		105		104	
1964	JAN													64	29	66	27	66	20	64	25	63	27	62	29	64	26
	FEB													72	34	74	30	73	22	72	28	72	28	71	35	72	30
	MAR													84	32	86	25	87	20	85	25	87	28	84	34	84	32
	APR.													92	40	94	37	95	30	93	37	93	38	93	40	92	38
	MAY													95	36	97	35	97	30	96	36	96	39	95	40	94	38
	JUN													109	51	111	51	112	50	110	52	110	51	108	51	110	51
	JUL.													107	55	110	55	110	50	108	56	108	54	107	55	106	55
	AUG.													104	55*	106	55*	106	53	104	57*	105	55*	104	55*	104	56*
	SEPT.													98	50	101	50	101	46	100	52	100	52	100	52	100	51
	OCT													94	48	96	45	96	43	96	47	97	47	96	50	96	47
	NOV.													74	33	75	29	75	28	75	28	74	31	73	36	74	33
	DEC.													73	26	74	25	74	24	72	23	71	21	69	26	71	23
	ANNUAL													109	26	111	25	112	20	110	23	110	21	108	26	110	23
1965	JAN.													65	30	66	28	68	24	66	28	65	27	65	32	66	29
	FEB.													75	33	76	29	76	25	77	26	78	31	75	36	76	33
	MAR.													79	40	81	37*	78	31	80	34*	79	36*	79	42	79	39*
	APR.													92	33	94	34	97	33	93	35	92	35	92	37	92	34
	MAY													97	40	99	36	99	29	98	35	98	39	98	42	97	40
	JUN.													97	49	99	48	100	40	98	46	98	46	96	48	97	47
	JUL.													104	56	106	56	106	50	105	57	106	56	104	58	105	57
	AUG.													103	60	104	60	105	54	105	60	106	59	104	61	103	60
	SEPT.													94	52	95	46	97	40	97	45	98	46	96	53	96	50
	OCT													96	45	98	42	97	33	97	43	96	46	95	50	96	49
	NOV.													82*	36	83*	35	82	31	83*	33	82*	33	82*	33	81*	31
	DEC.													62	28	63	25	62	22	63	25	63	24	61	23	62	22
	ANNUAL													104	26	106	25	106	22	105	25	106	24	104	23	105	22
1966	JAN.													63	29	64	26	65	22	62	26	62	27	61	33	62	29
	FEB.													73	32	74	29	76	25	74	26	74	29	74	33	73	27
	MAR.													87*	30	88*	25	88	21	88*	24	88*	29	89*	33	90*	26
	APR.													92	41	94	37	95	34	94	36	95	38	93	44	94	44
	MAY													97	47	100	46	99	42	98	47	99	48	97		98	
	JUN.													106	48	108	46	107	44	108	45	108	45	106	48	106	46
	JUL.													107		109	54	108	48	109	54	110	54	108	56	107	55
	AUG.													107	52	109	52	108	49	109	51	109	47	108	52	108	52
	SEPT.													101	49	104	48	103	43	104	48	104	48	102	49	104	48
	OCT.													98	42	94	39	95	35	93	39	93	39	92	47	92	44
	NOV.													87	36	89	32	87	29	88	32	88	33	87	38	87	35
	DEC.		25		27				30		34		38	67	29	67	27	66	25	66	27	65	28	65	33	67	35
	ANNUAL													107	29	109	25	108	21	109	24	110	27	108	33	108	27
1967	JAN.	62	24	64	26			62	27	61	28	59	26	63	27	64	27	63	23	63	25	63	25	62	27	64	24
	FEB.	72	26	75	26			72	33	71	34	70	33	73	31	76	27	73	25	74	32	73	35	71	36	72	
	MAR.	72	27	73	29			71	34	70	32	70	35			73	29	72	24	72	27	72	29	71	35	72	29
	APR.	67*	33	68*	34			66*	36	65*	36	65*	36	66*	32	67*	29	68	29	68*	30	67*	30	66*	36	67*	33
	MAY	103	36*	104	37*			103	41*	101	40*	102	40*	102	35*	104	32*	103	34	104	33*	104	33*	102	42*	104	39*
	JUN.	110*	47	110*	50			108*	49	107*	48	106*	46	107*	47	108*	45	108	41	109*	47	108*	46	108*	46	107*	45
	JUL.	110	58	110	60			108	66	107	68	106	67	107	66	108	63	108	58	109	59	108	62	108	66	108	65
	AUG.	110	62	110	64	112	65	109	65	109	66	107	66	108	64	110	65	111	55	110	66	110	66	108	65	109	64
	SEPT.	102	58	102	60	103	62	100	60	99	61	98	62	99	61	100	60	99	55	100	58	100	58	99	62		60
	OCT.	91	44	91	43	92	48	89	50	88	51	88	50	89	48	90	43	90	37	90	43	90	44	88	48	88	45
	NOV.	86	38	85	35	86	35	85	39	82	38	81	41	83	38	84	35	84	31	84	38	84	38	83	39	83	36
	DEC.	64		64	19	64	21	64	24	62	25	63	26	63	25	63	24	63	21	64	20	63	20	63	25	63	21
	ANNUAL	110		110	19			109	24	109	25	107	26	108	25	110	24	111	21	110	20	110	20	108	25		21
1968	JAN.	68	25	69	25	70	23	70	25	69	29	68	30	72	26	72	25	67	22	72	22	74	24	74	29	73	28
	FEB.	76*	34	77*	38	75	36	77*	42	75*	44	73*	41	75*	41	75*	38	76	33	76*	37	77*	38	76*	43	75*	40
	MAR.	84	36	83	37	84	39	86	39	83	40	82	41	84	37	85	33	85	30	86	31	87	38	86	40	86	37
	APR.	92	36	93	36	90	38	94	41	91	42	89	42	90	39	90	35	91	29	93	34	93	34	92	41	90	38
	MAY	99	38	100	38	99	39	100	44	97	46	96	46	98	44	99	41	99	33	99	42	99	46	99	45	98	44

*Approximate value, determined by projection from major station.

Table 14: AIR TEMPERATURE: Monthly and Annual Extremes (continued)

YEAR	MONTH	MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F																							
		STATION AND ELEVATION																							
		Z-75-070		Z-80-080		Z-84-090		Z-95-110																	
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
1969	JAN.																								
	FEB.																								
	MAR.																								
	APR.																								
	MAY	96	40	97	42	96																			
	JUN.	103	50	104	51	103																			
	JUL.	106	55	106	54*	105																			
	AUG.	106	50	106	54	105	54																		
	SEPT.	105	56	107	58	104	58																		
	OCT.	97	42	98*	44	96*	46																		
	NOV.	74	31	76	34	74	34																		
	DEC.	62	22	65	23	63	25																		
	ANNUAL	106		107		105																			
1968	JAN.	63	28	61	30	61	31																		
	FEB.	70	28	71	31	70	32																		
	MAR.	84	26	85	31	83	32																		
	APR.	92	33	94	38	92	39																		
	MAY	96	35	95	38	93	39																		
	JUN.	108	43	110	48	107	48																		
	JUL.	107	53	108	52	109	53																		
	AUG.	104	53	105	56*	103	56*																		
	SEPT.	99	49	101	52	99	51																		
	OCT.	95	46	98	48	95	49																		
	NOV.	73	29	74	32	73	33																		
	DEC.	71	21	72	23	69	28																		
	ANNUAL	108	21	110	23	109	28																		
1969	JAN.	66	26	66	29	64	30																		
	FEB.	77	26	78	31	77	32																		
	MAR.	77	32	79	40*	77	39*																		
	APR.	93	32	93	34	92	37																		
	MAY	96	35	97	38	96	41																		
	JUN.	99	44	97	46	96	49																		
	JUL.	105	53	104	56	103	56																		
	AUG.	103	54	104	59	103	60																		
	SEPT.	96	45	95	51	94	53																		
	OCT.	94	41	95	47	95	49																		
	NOV.	82	33	82*	32	80*	32																		
	DEC.	63	22	62	26	61	24																		
	ANNUAL	105	22	104	26	103	24																		
1970	JAN.	61	25	63	26	61	30																		
	FEB.	72	25	72	28	71	30																		
	MAR.	90	27	90*	30	88*	29																		
	APR.	93	38	94	42	94	44																		
	MAY	97	45	98	47	96	48																		
	JUN.	106	46	106	47	106	49																		
	JUL.	107	51	106	52	106	56																		
	AUG.	108	50	108	52	107	53																		
	SEPT.	103	48	103	50	102	51																		
	OCT.	92	40	92	42	91	45																		
	NOV.	66	31	66	35	87	36																		
	DEC.	66	25	64	28	63	30		30																
	ANNUAL	108	25	108	28	107	29																		
1971	JAN.	64	25	63	24	63	26	62	26																
	FEB.	74	26	73	29	74	33	73	31																
	MAR.	72	28	72	32	70	35	69	34																
	APR.	66	30	67*	33	66*	35	65*	34																
	MAY	104	39	104	39*	103	41*	102	40*																
	JUN.	108	46	107*	47	106*	46	105*	46																
	JUL.	110	55	108	54	107	65	106	65																
	AUG.	109	60	108	66	107	67	107	66																
	SEPT.	99	57	99	61	97	61	97	61																
	OCT.	89	41	89	48	88	49	87	48																
	NOV.	84	32	84	35	83	40	84	39																
	DEC.	62	20	65	21	62	22	61	22																
	ANNUAL	110	20	108	21	107	22	107	22																
1972	JAN.	72	24	73	24	71	26	71	26																
	FEB.	76	33	77*	45	75*	43	74*	41																
	MAR.	85	30	86	37		40	83	39																
	APR.	92	33	92	41	90	43	88	41																
	MAY	99	40	98	45	96	45	95	43																

*Approximate value, determined by projection from major station.

Table 14: AIR TEMPERATURE: Monthly and Annual Extremes (continued)

MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F

YEAR	MONTH	STATION AND ELEVATION																							
		0-05-080		0-10-070		0-15-060		0-20-060		0-25-070		0-30-080		0-35-065		0-40-070		0-45-075		0-50-077					
		MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1963	JAN																								
	FEB																								
	MAR																								
	APR																								
	MAY																								
	JUN																								
	JUL																								
	AUG	104	54	104	53	104	48			106	54	104	53												
	SEPT	105	55	104	53	106	49			107	57	106	56												
	OCT.	95	47	96	42	96	34	96	41	97	44	96	44												
	NOV.	76*	33	77*	32	77	30	77	32	79*	34	77*	32												
	DEC	60	21	59	21	59	21	59	22	61	22	62	22												
	ANNUAL																								
1964	JAN	65	30*	62	28*	63	20	63	25	63	30*	62	30*	61	25*	63	23*	63	21*	62	23*				
	FEB	70	33	71	29	72	23	71	29	72	33	71	34	69	27	73	25	72	24	71	26				
	MAR	84	34	84	30	83	25	84	24	87	30	85	35	84	25	84	23	84	21	85	23				
	APR	91	38	92	36	92	30	92	34	94	37	93	39	91	32	92	32	92	30	91	33				
	MAY	97	37	96	31	98	28	97	34	98	39	96	40	95	34	96	33	95	31	95	33				
	JUN.	110	48	109	48	109	42	110	46	111	50	109	50	109	46	109	46	109	47	109					
	JUL	109	51	108	50	108	47	108	50	110	55	107	55	106	47	107	47	106	46	107	48				
	AUG	104	52*	104	51*	103	50	104	56	106	52*	103	52*	103	50*	104	50*	103	49*	103	50*				
	SEPT	99	50	98	50	98	45	100	46	101	51	99	52	99	47	99	47	100	44	100	48				
	OCT	95	47	96	45	95	40	97	42	97	47	95	50	94	42	95	41	95	38	95	40				
	NOV	73	31	74	27	74	24	77	27	78	31	74	33	74	25	75	24	76	22	75	26				
	DEC	72	24	72	24	73	22	72	23	73	25	72	26	70	21	72	21	73	20	71	20				
	ANNUAL	110	24	109	24	109	20	110	23	111	25	109	26	109	21	109	21	109	20	109	20				
1965	JAN	70	30	70	27	70	24	70	26		29	69	32	70	24	71	25	70	24	68	26				
	FEB	76	33	76	31	75	25	77	27	76	31	75	34	75	28		24	76	22	75	25				
	MAR	83	36*	80	33*	79	31	81	32	80	36*	82	42*	79	32*	81		80	25*	80	31*				
	APR	94	36	93	34	93	31	94	34	93	36	92	39	94	32	94	36	93	33	92	34				
	MAY	99	39	97	39	97	30	100	36	98	38	96	43	97	34	98	36	97	36	97	36				
	JUN	97*	47	96*	48	98	43	100	46	96*	48	96*	51	96*	44	96*	46	96*	45	95*	45				
	JUL.	104	55	104	56	103	50	107	54	104	57	104	59	103	51	104	54	105	53	104	56				
	AUG	104	57	102	58	101	55	106	54	103	58	102	58	102	54	103	52	103	53	102	55				
	SEPT.	93	49	95	50	96	41	98	44	94	49	94	52	92	43	95	40	94	41	94	44				
	OCT	95	56	96	45	92	35	97	40	96	45	96	48	95	40	95	36	96	35	96	38				
	NOV.	74*	33	76*	34	81	33	81	34	74*	34	75*	32	78*	33	79*	33	79*	33	79*	33				
	DEC.	58	23	59	23	56	21	60	23	59	22	59	22	59	23	60	22	60	22	61	24				
	ANNUAL	104	23	104	23	103	21	107	23	104	22	104	22	103	23	104	22	105	22	104	24				
1966	JAN	62	28	63	25	64	21	63	24	63	28	62	28	64	26	64	23	64	22	64	23				
	FEB	73	29	74	28	75	25	76	27	72	30	74	31	74	27	74	27	74	24	74	27				
	MAR	85*	27	86*	28	87	27	83	24	87*	26	85*	28	86*	30	85*	27	85*	22	86*	23				
	APR	94	41	95	37	94	36	96	38	94	38	93	40	94	37	93	34	93	32	94	35				
	MAY	97	46	98	45	98	41	100	43	99	44	97	46	97	42	96	42	99	41	98	41				
	JUN	105	46	107	47	107	40	109	42	107	43	105	46	101	41	105	42	106	41	106	44				
	JUL.	105	50	107	51	108	48	109	52	106	51	104	51	105	49	105	50	107	49	107	50				
	AUG	107	49	108	50	106	48	110	48	108	50	106	52	108	48	107	47	108	46	108	48				
	SEPT	100	47	102	47	101	44	104	45	102	49	101	50	102	45	100	44	102	43	101	43				
	OCT.	92	45	94	40	91	35	94	38	93	41	92	44	91	38	92	34	92	34	92	37				
	NOV.	84	36	86	32	86	29	86	33	84	33	83	37	87	32	88	28	88	29	88	30				
	DEC.	63	28*	64	27*	63	26	68	28	65	28*	64	27	65	27*	65	26*	64	24*	65	25*				
	ANNUAL	107	27	108	25	108	21	110	24	108	26	106	27	108	26	107	23	108	22	108	23				
1967	JAN	65	27	66	26	66	24	66	25	64	26	63	25	65	26	64	25	65	24	65	24				
	FEB	73	30	74	30	74	26	70	28	74	27	74	31	76	26	76	25	73	27	75	26				
	MAR.	72	32	72	30	74	25	76	30	72	29	70	35	72	30	72	27	72	24	73	26				
	APR.	66*	34	68*	32	69	30	69	32	70*	32	67*	35	66*	31	65*	32	66*	31	66*	30				
	MAY	100	39*	102	37*	103	37	104	35	102	34*	102	38*	99	36*	98	35*	100	33*	102	32*				
	JUN.	105*	45	108*	45	106	44	106	46	107*	44	107*	46	105*	45	106*	45	107*	42	107*	42				
	JUL	105	64	108	62	108	55	109	59	107	63	107	66	106	59	106	55	107	54	107	58				
	AUG	108	64	109	63	107	58	109	62	108	63	108	66	107	60	107	57	107	57	108	60				
	SEPT	98	58	100	58	99	55	102	56	99	57	99	60	99	56	98	56	98	55	98	57				
	OCT.	88	48	90	44	89	40	91	45	90	47	88	50	89	42	90	38	91	37	90	41				
	NOV.	82	35*	84	33*	79	32	84	34	79	36*	80	39*	84	34*	82	32*	84	31*	85	32*				
	DEC.	64	21	64	20	63	20	64	17	64	21	62	23	64	18	64	18	63	16	65	19				
	ANNUAL	108	21	109	20	108	20	109	17	108	21	108	23	107	18	107	18	107	16	108	19				
1968	JAN	75	27	76	23	77	20	74	24	74	25	73	25	75	25	74	23	73	21	74	23				
	FEB.	74*	37	75*	34	78	31	73	36	72*	36	71*	39	75*	36	72*	35	72*	33	74*	33				
	MAR.	84	37	86	33	87	32	86	34	84	33	82	38	83	32	84	31	84	30	85	30				
	APR.	92	40	92	39	91	36	93	35	92	36	90	42	92	36	91	35	90	31	91	34				
	MAY	97	43	98	41	97	38	98	40	97	38	95	42	96	40	96	39	96	36	97	38				

*Approximate value, determined by projection from major station.

Table 14: AIR TEMPERATURE: Monthly and Annual Extremes (continued)

YEAR	MONTH	MONTHLY MAXIMUM-MINIMUM AIR TEMPERATURE RECORD IN DEGREES F																									
		Coalinga U.S.B.R.1/				STATION AND ELEVATION																					
		HIGH		LOW		N-05- 100		N-10-080		N-15-070																	
		MAX	AV	MIN	AV.	MAX.	MIN.	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN.
1963	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN																										
	JUL																										
	AUG																										
	SEPT																										
	OCT																										
	NOV																										
	DEC																										
	ANNUAL																										
1964	JAN					58	31																				
	FEB							71	31	69	26																
	MAR					82	34	81	30	80	25																
	APR					91	37	92	34	87	31																
	MAY					96	36	96	36	86	35																
	JUN					108	47	110	48		44																
	JUL						51	107	51	108	49																
	AUG							104	54	103	54																
	SEPT.							100	48	99	46																
	OCT							94	46	96	43																
	NOV.	75	62	23	36	74	31	80	31	72	26																
	DEC	72	58	22	37	71	29	72	25	70	21																
	ANNUAL							110																			
1965	JAN	65	55	23	36	68	30	62	28	62	28																
	FEB	75	61	26	34			74	32	72	28																
	MAR.	81	66	31	39	80	40	81	36	76	31																
	APR	94	70	32	47	91	36			86	33																
	MAY	100	84	35	50	96	40			90	36																
	JUN	99	86	44	53	97	47	95	48	97	44																
	JUL	106	99	52	61			102	57	100	52																
	AUG	105	97	52	63	102	59	102	59	101	54																
	SEPT	99	88	42	53	94	46	93	52	97	45																
	OCT	96	85	44	47	94	49	93	48	92	43																
	NOV	84	69	35	45	72	37	75	36	83	34																
	DEC.	62	51	28	33	59	22	63	22	62	20																
	ANNUAL	106	74	22	45		22	102	22	101	20																
1966	JAN	63	57	24	31	64	30	64	30	64	24																
	FEB	75	59	24	32			74	31	74	26																
	MAR	88	70	26	40	86	31	86	30	84	24																
	APR.	94	80	36	45	95	37	93	42	92	38																
	MAY	100	89	44	54			100	47		46																
	JUN.	108	93	44	58			105	46																		
	JUL.	108	97	56	63			105	56																		
	AUG.	108	102	51	68			106	52																		
	SEPT	104	88	46	58			100	46																		
	OCT	95	83	40	49	92	40	93	43																		
	NOV	88	70	32	44	87	34	85	34																		
	DEC.	66	53	26	39	66	26	67																			
	ANNUAL	108	78	24	48			106																			
1967	JAN	67	58	26	34	66	23	65	28	64	26																
	FEB	76	58	28	37	74	30																				
	MAR	74	66	30	42	72	30	71	32		32																
	APR	68	60	32	41	70	32	67	34																		
	MAY	105	85	33	51	101	36	101	34																		
	JUN.	108	90	46	57	104	43	107	45																		
	JUL.	109	103	58	66	107	61	108	61																		
	AUG.	108	103	61	67	111	64	109	61	108	65																
	SEPT.	100	94	56	61	101	60	112	56	98	56																
	OCT.		85	39	47	90	44	89	44																		
	NOV	84	73	31	43	82	34	81	38																		
	DEC.	66	55	16	29	64	18	64	26																		
	ANNUAL	109	78	16	48	111	18	112	26																		
1968	JAN.	77	59	21	30	74	24			75	24																
	FEB.	79	66	34	43					75	36																
	MAR.	86	70	30	41			81	39	84	34																
	APR.	96	79	34	43					92	41																
	MAY	98	85	36	48			93	36	96	42																

1/ Coalinga U. S. Bureau of Reclamation Station. Elevation 670 feet.

Table 15: AIR TEMPERATURE DETAILS
Station A-25-122

YEAR	MONTH	RECORD IN DEGREES F				NO HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤40		≤80		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN.																										
	FEB																										
	MAR	* 80	64	35	42	0	0	0	0	0	0	0	0	152	20	327	31	417	31	157	25	0	0	0	0	0	0
	APR.	77	64	36	44	0	0	0	0	0	0	0	0	101	19	268	27	452	30	161	20	0	0	0	0	0	0
	MAY	93	79	42	56	0	0	0	0	0	0	0	0	3	1	16	8	728	31	582	31	10	3	0	0	0	0
	JUN	98	85	31	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	646	30	51	9	0	0	0	0
	JUL.	101	93	54	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	736	31	143	21	2	2	0	0
	AUG	99	92	55	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	731	31	130	22	0	0	0	0
	SEPT	105	87	58	64	0	0	0	0	0	0	0	0	0	0	0	0	720	30	714	30	60	12	6	1	0	0
	OCT	93	74	47	55	0	0	0	0	0	0	0	0	0	0	6	2	738	31	415	28	6	2	0	0	0	0
	NOV	77	62	33	44	0	0	0	0	0	0	0	0	172	16	339	28	381	26	101	14	0	0	0	0	0	0
	DEC.	76	51	25	32	0	0	0	0	11	8	88	14	588	31	644	31	100	12	27	5	0	0	0	0	0	0
	ANNUAL	105																									
1964	JAN.	67	54	27	35	0	0	0	0	5	2	15	5	431	31	597	31	147	22	26	9	0	0	0	0	0	0
	FEB	76	61	28	35	0	0	0	0	0	0	14	10	315	29	428	29	268	27	104	16	0	0	0	0	0	0
	MAR	86	63	31	38	0	0	0	0	0	0	6	2	252	27	399	30	345	29	143	17	0	0	0	0	0	0
	APR	92	68	35	45	0	0	0	0	0	0	0	0	73	12	156	21	564	29	325	25	7	2	0	0	0	0
	MAY	92	76	38	52	0	0	0	0	0	0	0	0	38	7	101	11	643	30	494	29	6	2	0	0	0	0
	JUN	107	86	50	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	644	30	69	8	20	4	0	0
	JUL.	105	95	56	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	739	31	201	24	28	7	0	0
	AUG.	102	93	56	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	732	31	165	25	7	4	0	0
	SEPT.	98	86	50	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	655	30	42	11	0	0	0	0
	OCT	94	82	47	59	0	0	0	0	0	0	0	0	0	0	9	3	735	31	620	31	21	7	0	0	0	0
	NOV	79	60	31	41	0	0	0	0	0	0	1	1	252	20	399	28	321	27	94	14	0	0	0	0	0	0
	DEC.	73	57	30	41	0	0	0	0	0	0	15	5	276	23	443	27	301	27	74	8	0	0	0	0	0	0
	ANNUAL	107	74	27	50	0	0	0	0	5	2	51	23	1637	149	2532	180	6258	344	4650	27[illegible]	511	79	55	15	0	0
1965	JAN.	70	33	28	36	0	0	0	0	0	0	27	9	428	28	571	31	173	20	23	6	0	0	0	0	0	0
	FEB.	72	59	27	37	0	0	0	0	0	0	8	3	309	27	426	28	246	23	83	15	0	0	0	0	0	0
	MAR	76	64	37	43	0	0	0	0	0	0	0	0	96	24	260	30	464	30	187	25	0	0	0	0	0	0
	APR	93	69	36	47	0	0	0	0	0	0	0	0	152	16	208	18	492	28	323	21	4	3	0	0	0	0
	MAY	94	79	37	55	0	0	0	0	0	0	0	0	14	5	38	9	706	31	559	31	16	4	0	0	0	0
	JUN.	94	80	47	59	0	0	0	0	0	0	0	0	0	0	7	2	713	30	634	30	21	5	0	0	0	0
	JUL	101	92	59	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	742	31	123	20	2	1	0	0
	AUG	99	91	60	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	105	18	0	0	0	0
	SEPT	89	81	52	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	656	30	0	0	0	0	0	0
	OCT.	92	61	43	55	0	0	0	0	0	0	0	0	7	2	17	3	727	31	553	31	8	3	0	0	0	0
	NOV	84	64	35	47	0	0	0	0	0	0	0	0	86	11	177	21	543	29	220	24	0	0	0	0	0	0
	DEC.	* 69		23		0	0	1	1	22	7	128	15	420	25	473	25	62	8	6	2	0	0	0	0	0	0
	ANNUAL	101	73	23	51	0	0	1	1	22	7	163	27	1512	138	2217	167	6334	322	4730	277	277	53	2	1	0	0
1966	JAN.	67	53	28	34	0	0	0	0	0	0	45	11	492	30	598	31	146	20	11	5	0	0	0	0	0	0
	FEB	71	56	30	38	0	0	0	0	0	0	12	5	352	26	453	27	219	23	57	7	0	0	0	0	0	0
	MAR.	84	66	32	44	0	0	0	0	0	0	2	2	123	18	247	27	497	25	220	23	0	0	0	0	0	0
	APR.	90	78	42	53	0	0	0	0	0	0	0	0	4	2	32	9	688	30	500	30	0	0	0	0	0	0
	MAY	96	83	49	58	0	0	0	0	0	0	0	0	0	0	4	2	740	31	619	31	34	8	0	0	0	0
	JUN.	103	88	49	64	0	0	0	0	0	0	0	0	0	0	3	2	717	30	678	30	117	15	6	2	0	0
	JUL.	101	92	56	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	737	31	134	18	8	3	0	0
	AUG	103	96	55	71	0	0	0	0	0	0	0	0	0	0	0	0	744	31	733	31	245	27	37	11	0	0
	SEPT.	98	85	50	61	0	0	0	0	0	0	0	0	0	0	1	1	719	30	670	30	40	7	0	0	0	0
	OCT.	92	77	42	54	0	0	0	0	0	0	0	0	4	2	21	6	723	31	515	31	3	1	0	0	0	0
	NOV	90	66	34	47	0	0	0	0	0	0	0	0	72	10	176	19	544	29	232	23	0	0	0	0	0	0
	DEC	71	50	28	37	0	0	0	0	3	1	37	9	503	25	609	30	135	13	25	5	0	0	0	0	0	0
	ANNUAL	103	74	28	52	0	0	0	0	3	1	96	27	1550	113	2144	154	6616	328	4997	277	573	76	53	16	0	0
1967	JAN.	67	57	28	36	0	0	0	0	1	1	37	10	333	29	513	31	231	31	33	9	0	0	0	0	0	0
	FEB.	70	56	32	38	0	0	0	0	0	0	1	1	318	26	485	28	187	21	59	10	0	0	0	0	0	0
	MAR.	78	64	35	44	0	0	0	0	0	0	0	0	105	16	267	28	477	30	174	23	0	0	0	0	0	0
	APR.	65	57	33	45	0	0	0	0	0	0	0	0	197	26	450	30	270	28	24	7	0	0	0	0	0	0
	MAY	99	62	39	57	0	0	0	0	0	0	0	0	6	2	44	11	700	31	320	31	54	9	0	0	0	0
	JUN.	102	85	44	62	0	0	0	0	0	0	0	0	1	1	14	4	706	30	621	30	81	13	8	2	0	0
	JUL.	103	97	66	74	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	308	31	29	8	0	0
	AUG.	105	99	66	75	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	319	31	31	11	0	0
	SEPT.	95	88	61	67	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	50	16	0	0	0	0
	OCT.	87	79	50	57	0	0	0	0	0	0	0	0	0	0	0	0	744	31	629	31	0	0	0	0	0	0
	NOV.	84	68	41	52	0	0	0	0	0	0	0	0	17	5	101	9	619	30	269	21	0	0	0	0	0	0
	DEC.	63	52	26	36	0	0	0	0	5	2	36	7	480	30	604	31	140	20	14	4	0	0	0	0	0	0
	ANNUAL	105	78	26	53	0	0	0	0	6	3	74	18	1457	137	2478	172	6282	344	4571	258	812	100	68	21	0	0
1968	JAN.	73	53	26	37	0	0	0	0	6	2	54	6	414	29	520	31	224	21	56	7	0	0	0	0	0	0
	FEB.	75	62	35	47	0	0	0	0	0	0	0	0	56	12	207	21	469	29	133	17	0	0	0	0	0	0
	MAR.	62	66	39	45	0	0	0	0	0	0	0	0	73	14	205	28	539	31	226	23	0	0	0	0	0	0
	APR	88	74	43	52	0	0	0	0	0	0	0	0	8	2	84	15	636	30	417	28	0	0	0	0	0	0
	MAY	91	78	45	57	0	0	0	0	0	0	0	0	1	1	30	5	714	31	584	31	4	1	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)
Station A-45-158

YEAR	MONTH	RECORD IN DEGREES F				NO HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR	78	63	36	44	0	0	0	0	0	0	0	0	129	21	308	27	446	31	131	22	0	0	0	0	0	0
	APR	79	62	34	44	0	0	0	0	0	0	0	0	136	19	257	23	463	30	148	17	0	0	0	0	0	0
	MAY	* 91	77	41	56	0	0	0	0	0	0	0	0	4	1	17	7	703	30	541	30	2	1	0	0	0	0
	JUN	* 99	83	52	61	0	0	0	0	0	0	0	0	0	0	0	0	661	28	595	28	41	7	0	0	0	0
	JUL	98	91	57	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	736	31	111	18	0	0	0	0
	AUG	98	91	54	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	104	19	0	0	0	0
	SEPT	105	86	58	67	0	0	0	0	0	0	0	0	0	0	0	0	720	30	715	30	52	10	6	1	0	0
	OCT	92	73	50	57	0	0	0	0	0	0	0	0	0	0	0	0	744	31	473	29	4	2	0	0	0	0
	NOV	75	60	35	44	0	0	0	0	0	0	0	0	177	17	355	25	365	26	105	15	0	0	0	0	0	0
	DEC.	72	52	25	32	0	0	0	0	13	5	61	18	539	31	596	31	148	17	44	5	0	0	0	0	0	0
	ANNUAL	105																									
1964	JAN.	67	54	29	36	0	0	0	0	0	0	7	3	455	31	609	31	135	22	20	5	0	0	0	0	0	0
	FEB	73	60	32	39	0	0	0	0	0	0	0	0	284	26	428	29	268	27	74	14	0	0	0	0	0	0
	MAR	84	62	33	42	0	0	0	0	0	0	0	0	244	19	377	26	367	26	123	14	0	0	0	0	0	0
	APR	89	70	35	48	0	0	0	0	0	0	0	0	68	12	169	15	551	30	336	25	0	0	0	0	0	0
	MAY	89	75	39	53	0	0	0	0	0	0	0	0	54	8	98	10	646	30	484	28	0	0	0	0	0	0
	JUN	106	85	48	62	0	0	0	0	0	0	0	0	0	0	1	1	719	30	631	30	55	6	14	3	0	0
	JUL	103	93	58	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	740	31	164	23	11	3	0	0
	AUG	99	92	52	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	731	31	124	19	0	0	0	0
	SEPT	96	84	51	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	661	30	22	5	0	0	0	0
	OCT	93	81	48	62	0	0	0	0	0	0	0	0	0	0	3	1	741	31	633	31	12	4	0	0	0	0
	NOV	79	60	34	43	0	0	0	0	0	0	0	0	249	18	378	26	342	26	91	14	0	0	0	0	0	0
	DEC	73	57	29	42	0	0	0	0	0	0	2	1	270	22	432	26	312	27	68	6	0	0	0	0	0	0
	ANNUAL	106	73	29	52	0	0	0	0	0	0	9	4	1624	136	2995	165	6289	341	4592	259	377	57	25	6	0	0
1965	JAN	68	53	28	38	0	0	0	0	0	0	9	5	426	26	574	31	170	18	22	7	0	0	0	0	0	0
	FEB	69	57	30	40	0	0	0	0	0	0	6	2	272	21	408	27	264	19	56	12	0	0	0	0	0	0
	MAR	75	62	40	46	0	0	0	0	0	0	0	0	43	15	300	29	444	29	130	20	0	0	0	0	0	0
	APR	92	67	38	50	0	0	0	0	0	0	0	0	118	14	262	18	478	28	299	17	6	3	0	0	0	0
	MAY	94	78	41	55	0	0	0	0	0	0	0	0	9	5	42	8	702	31	560	30	11	4	0	0	0	0
	JUN	94	82	47	60	0	0	0	0	0	0	0	0	0	0	7	3	713	30	605	28	20	4	0	0	0	0
	JUL.	99	91	56	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	742	31	124	19	0	0	0	0
	AUG	99	90	62	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	93	19	0	0	0	0
	SEPT	88	80	52	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	653	30	0	0	0	0	0	0
	OCT	90	79	46	61	0	0	0	0	0	0	0	0	0	0	12	2	732	31	639	31	2	1	0	0	0	0
	NOV	81	64	35	50	0	0	0	0	0	0	0	0	67	5	109	12	611	29	225	24	0	0	0	0	0	0
	DEC.	72	53	25	34	0	0	0	0	9	3	59	12	522	27	599	31	145	19	16	8	0	0	0	0	0	0
	ANNUAL	99	71	25	53	0	0	0	0	9	3	74	19	1457	113	2313	161	6467	295	4691	269	254	50	0	0	0	0
1966	JAN	74	53	31	37	0	0	0	0	0	0	10	2	461	29	592	31	152	18	22	6	0	0	0	0	0	0
	FEB	69	55	32	40	0	0	0	0	0	0	0	0	266	19	449	26	223	22	51	6	0	0	0	0	0	0
	MAR	84	65	32	46	0	0	0	0	0	0	0	0	102	14	182	20	562	29	236	24	0	0	0	0	0	0
	APR	88	77	45	61	0	0	0	0	0	0	0	0	0	0	30	8	690	30	525	29	0	0	0	0	0	0
	MAY	* 96		48		0	0	0	0	0	0	0	0	0	0	1	1	527	24	457	23	12	3	0	0	0	0
	JUN	102	87	48	65	0	0	0	0	0	0	0	0	0	0	4	1	716	30	678	30	84	12	7	2	0	0
	JUL.	99	91	57	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	739	31	109	14	0	0	0	0
	AUG	101	94	55	73	0	0	0	0	0	0	0	0	0	0	0	0	744	31	734	31	200	23	17	6	0	0
	SEPT	97	83	50	63	0	0	0	0	0	0	0	0	0	0	1	1	719	30	675	30	27	5	0	0	0	0
	OCT	90	75	46	57	0	0	0	0	0	0	0	0	0	0	8	2	736	31	580	31	2	1	0	0	0	0
	NOV	88	64	39	51	0	0	0	0	0	0	0	0	71	6	128	14	592	28	279	22	0	0	0	0	0	0
	DEC.	* 70	53	29	39	0	0	0	0	0	0	12	3	365	22	492	27	175	17	38	6	0	0	0	0	0	0
	ANNUAL	102	73	29	55	0	0	0	0	0	0	22	5	1265	90	1887	131	6580	321	5014	269	434	58	24	8	0	0
1967	JAN	65	56	30	39	0	0	0	0	0	0	14	4	275	26	487	30	257	24	41	10	0	0	0	0	0	0
	FEB	74	57	33	40	0	0	0	0	0	0	0	0	276	24	452	27	220	23	50	8	0	0	0	0	0	0
	MAR	72	62	37	45	0	0	0	0	0	0	0	0	118	18	269	26	475	29	125	19	0	0	0	0	0	0
	APR	62	55	36	40	0	0	0	0	0	0	0	0	218	27	469	30	251	27	6	3	0	0	0	0	0	0
	MAY	98	77	42	57	0	0	0	0	0	0	0	0	3	1	42	9	702	31	500	30	28	6	0	0	0	0
	JUN.	101	84	45	59	0	0	0	0	0	0	0	0	4	1	6	1	689	30	619	30	65	12	5	2	0	0
	JUL	100	96	68	75	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	257	31	15	7	0	0
	AUG	102	97	70	77	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	261	31	11	9	0	0
	SEPT	94	87	61	69	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	15	8	0	0	0	0
	OCT	85	71	51	57	0	0	0	0	0	0	0	0	0	0	0	0	744	31	657	31	0	0	0	0	0	0
	NOV	83	67	41	52	0	0	0	0	0	0	0	0	23	6	118	9	602	30	324	19	0	0	0	0	0	0
	DEC	* 68	52	25	38	0	0	0	0	6	2	26	4	390	27	541	29	150	10	10	3	0	0	0	0	0	0
	ANNUAL	102	72	25	54	0	0	0	0	6	2	40	8	1307	130	2384	161	6298	327	4540	245	626	88	31	18	0	0
1968	JAN	70	58	25	39	0	0	0	0	7	2	32	4	368	25	493	31	251	21	47	9	0	0	0	0	0	0
	FEB	74	64	38	50	0	0	0	0	0	0	0	0	28	10	199	19	497	29	135	17	0	0	0	0	0	0
	MAR	81	66	41	48	0	0	0	0	0	0	0	0	52	19	192	25	552	31	217	22	0	0	0	0	0	0
	APR	88	73	43	52	0	0	0	0	0	0	0	0	5	3	88	14	632	30	402	28	0	0	0	0	0	0
	MAY	92	78	44	57	0	0	0	0	0	0	0	0	1	1	29	6	715	31	565	30	3	1	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)
Station B-20-040

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤40		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR																										
	APR	*				0	0	0	0	0	0	0	0	24	6	91	12	163	13	131	13	0	0	0	0	0	0
	MAY	94	81	45	57	0	0	0	0	0	0	0	0	2	1	9	3	735	31	602	31	13	4	0	0	0	0
	JUN	105	88	52	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	661	30	74	11	18	3	0	0
	JUL.	105	96	53	61	0	0	0	0	0	0	0	0	0	0	0	0	744	31	723	31	192	24	32	10	0	0
	AUG	104	95	51	62	0	0	0	0	0	0	0	0	0	0	0	0	744	31	708	31	180	27	16	7	0	0
	SEPT	103	91	55	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	690	30	113	16	11	2	0	0
	OCT	96	76	43	54	0	0	0	0	0	0	0	0	4	2	31	8	713	31	490	31	13	2	0	0	0	0
	NOV.	75	62	34	43	0	0	0	0	0	0	0	0	144	19	344	28	376	25	138	17	0	0	0	0	0	0
	DEC.	* 62	44	25	33	0	0	0	0	18	5	61	8	609	30	699	30	33	5	0	0	0	0	0	0	0	0
	ANNUAL	108																									
1964	JAN	* 67	54	25	32	0	0	0	0	13	5	71	15	479	31	608	31	123	23	18	4	0	0	0	0	0	0
	FEB	* 75	62	30	34	0	0	0	0	0	0	21	9	297	25	374	26	229	26	82	15	0	0	0	0	0	0
	MAR	* 88		27		0	0	0	0	3	1	15	4	192	23	292	24	281	25	121	17	0	0	0	0	0	0
	APR	91	74	37	46	0	0	0	0	0	0	0	0	75	14	168	24	552	30	351	29	8	2	0	0	0	0
	MAY	96	79	40	53	0	0	0	0	0	0	0	0	9	3	65	9	679	31	510	30	16	3	0	0	0	0
	JUN.	112	90	53	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	662	30	93	12	29	4	2	1
	JUL.	111	99	57	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	730	31	264	29	74	15	1	1
	AUG	105	97	59	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	730	31	229	28	35	11	0	0
	SEPT.	100	89	48	54	0	0	0	0	0	0	0	0	0	0	4	3	716	30	568	30	85	14	2	1	0	0
	OCT.	97	85	45	53	0	0	0	0	0	0	0	0	1	1	24	7	720	31	523	31	48	10	0	0	0	0
	NOV	77	62	27	38	0	0	0	0	3	2	28	8	259	24	373	28	347	29	109	17	0	0	0	0	0	0
	DEC	77	59	21	38	0	0	10	2	20	3	37	5	281	23	421	28	323	28	104	16	0	0	0	0	0	0
	ANNUAL	112	76	21	49	0	0	10	2	39	11	172	41	1593	144	2329	180	6178	345	4508	281	743	98	140	31	3	2
1965	JAN	70	55	30	38	0	0	0	0	0	0	28	8	380	28	573	31	171	22	31	5	0	0	0	0	0	0
	FEB.	75	60	29	36	0	0	0	0	0	0	27	7	305	26	434	28	238	24	84	15	0	0	0	0	0	0
	MAR	82	68	36	44	0	0	0	0	0	0	0	0	55	14	240	30	504	30	220	27	0	0	0	0	0	0
	APR	97	71	37	48	0	0	0	0	0	0	0	0	49	11	199	18	521	29	327	19	22	4	0	0	0	0
	MAY	99	82	42	53	0	0	0	0	0	0	0	0	11	4	38	9	706	31	545	31	38	7	0	0	0	0
	JUN.	98	87	47	57	0	0	0	0	0	0	0	0	0	0	4	3	716	30	634	30	67	12	0	0	0	0
	JUL.	105	96	54	63	0	0	0	0	0	0	0	0	0	0	0	0	744	31	726	31	220	27	21	5	0	0
	AUG	102	96	56	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	735	31	204	31	9	4	0	0
	SEPT	96	86	48	56	0	0	0	0	0	0	0	0	0	0	7	3	713	30	604	30	26	9	0	0	0	0
	OCT	95	84	41	51	0	0	0	0	0	0	0	0	8	2	29	10	715	31	484	31	20	6	0	0	0	0
	NOV	85	65	33	45	0	0	0	0	0	0	0	0	109	13	216	21	504	28	215	22	0	0	0	0	0	0
	DEC.	66	47	25	33	0	0	0	0	34	7	132	15	574	31	672	31	72	13	4	1	0	0	0	0	0	0
	ANNUAL	105	75	25	49	0	0	0	0	34	7	187	30	1491	129	2412	184	6348	329	4609	273	597	96	30	9	0	0
1966	JAN.	67	55	25	32	0	0	0	0	20	8	79	16	464	31	591	31	153	21	29	10	0	0	0	0	0	0
	FEB	71	58	27	35	0	0	0	0	2	1	48	12	315	25	450	27	222	26	58	12	0	0	0	0	0	0
	MAR	88	71	28	41	0	0	0	0	3	1	12	3	137	22	270	30	474	30	264	28	0	0	0	0	0	0
	APR	93	83	37	49	0	0	0	0	0	0	0	0	9	4	57	15	663	30	451	30	16	4	0	0	0	0
	MAY	102	87	47	56	0	0	0	0	0	0	0	0	0	0	5	3	739	31	609	31	69	12	3	1	0	0
	JUN	108	94	46	59	0	0	0	0	0	0	0	0	0	0	6	4	714	30	651	30	159	19	33	7	0	0
	JUL	* 107	97	53	60	0	0	0	0	0	0	0	0	0	0	0	0	688	29	642	29	185	22	49	10	0	0
	AUG	* 109	101	50	65	0	0	0	0	0	0	0	0	0	0	1	1	731	31	713	31	277	28	111	19	0	0
	SEPT.	104	90	45	58	0	0	0	0	0	0	0	0	0	0	8	3	712	30	645	30	74	14	8	2	0	0
	OCT.	96	82	40	50	0	0	0	0	0	0	0	0	37	9	80	16	664	31	490	31	5	3	0	0	0	0
	NOV.	90	69	31	44	0	0	0	0	0	0	2	1	96	14	234	28	486	30	219	26	2	2	0	0	0	0
	DEC	71	52	25	38	0	0	0	0	12	4	32	6	425	27	582	30	162	14	41	6	0	0	0	0	0	0
	ANNUAL	109	78	25	49	0	0	0	0	37	14	173	38	1483	132	2284	188	6408	333	4812	294	787	104	204	39	0	0
1967	JAN.	68	58	24	34	0	0	4	2	25	7	96	13	396	31	513	31	231	24	70	17	0	0	0	0	0	0
	FEB.	72	59	31	37	0	0	0	0	0	0	3	1	308	27	437	28	235	24	68	12	0	0	0	0	0	0
	MAR.	77	67	33	42	0	0	0	0	0	0	0	0	131	22	248	28	496	31	224	28	0	0	0	0	0	0
	APR	69	61	34	43	0	0	0	0	0	0	0	0	151	23	340	29	380	29	96	16	0	0	0	0	0	0
	MAY	104	82	41	56	0	0	0	0	0	0	0	0	5	1	22	6	722	31	551	31	70	8	9	2	0	0
	JUN.	105	89	45	60	0	0	0	0	0	0	0	0	2	2	9	2	711	31	622	30	128	16	15	2	0	0
	JUL.	* 108		61	68	0	0	0	0	0	0	0	0	0	0	0	0	606	28	602	28	248	26	90	17	0	0
	AUG	108	103	63	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	330	31	127	24	0	0
	SEPT	98	93	59	64	0	0	0	0	0	0	0	0	0	0	0	0	720	30	716	30	122	22	0	0	0	0
	OCT	92	83	44	52	0	0	0	0	0	0	0	0	3	1	32	15	712	31	504	31	0	0	0	0	0	0
	NOV	85	68	37	49	0	0	0	0	0	0	0	0	19	5	134	19	586	29	238	20	0	0	0	0	0	0
	DEC.	64	53	25	33	0	0	0	0	28	4	89	14	483	30	619	31	125	22	12	5	0	0	0	0	0	0
	ANNUAL	108	76	24	50	0	0	4	2	53	11	188	28	1498	142	2354	189	6268	341	4447	279	898	103	241	45	0	0
1968	JAN	68	55	27	35	0	0	0	0	0	0	35	11	398	30	542	31	202	24	31	8	0	0	0	0	0	0
	FEB	77	65	32	47	0	0	0	0	0	0	0	0	55	9	162	18	534	29	166	22	0	0	0	0	0	0
	MAR.	* 86	69	37	46	0	0	0	0	0	0	0	0	55	12	149	24	521	29	212	24	0	0	0	0	0	0
	APR	92	77	42	48	0	0	0	0	0	0	0	0	25	9	85	18	635	30	371	29	2	1	0	0	0	0
	MAY	97	83	46	54	0	0	0	0	0	0	0	0	0	0	18	6	726	31	570	31	23	4	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)

Station B-35-070

YEAR	MONTH	RECORD IN DEGREES F				NO HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤48		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY	95	81	48	59	0	0	0	0	0	0	0	0	0	0	4	2	740	31	659	31	16	4	0	0	0	0
	JUN	106	88	53	64	0	0	0	0	0	0	0	0	0	0	0	0	720	30	696	30	89	11	18	3	0	0
	JUL	104	95	59	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	742	31	205	23	32	7	0	0
	AUG	104	95	60	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	201	27	20	6	0	0
	SEPT	111	90	60	68	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	120	16	13	3	2	1
	OCT	95	75	48	57	0	0	0	0	0	0	0	0	0	0	7	3	737	31	530	31	11	2	0	0	0	0
	NOV.	* 76	63	35	45	0	0	0	0	0	0	0	0	92	11	244	26	422	26	146	17	0	0	0	0	0	0
	DEC.	* 59		27		0	0	0	0	2	2	68	10	419	21	497	22	19	5	0	0	0	0	0	0	0	0
	ANNUAL	111																									
1964	JAN	67	54	27	34	0	0	0	0	3	2	49	10	467	31	617	31	127	21	13	3	0	0	0	0	0	0
	FEB	76	62	30	35	0	0	0	0	0	0	16	7	322	29	447	29	249	29	96	17	0	0	0	0	0	0
	MAR	89	66	32	41	0	0	0	0	0	0	0	0	164	24	320	28	424	31	176	20	0	0	0	0	0	0
	APR	93	74	40	49	0	0	0	0	0	0	0	0	44	10	125	16	595	30	369	29	6	2	0	0	0	0
	MAY	95	79	43	54	0	0	0	0	0	0	0	0	6	5	70	8	674	31	516	30	11	3	0	0	0	0
	JUN	109	90	54	63	0	0	0	0	0	0	0	0	0	0	0	0	720	30	687	30	81	9	23	3	0	0
	JUL	108	99	61	71	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	251	29	54	10	0	0
	AUG	104	96	60	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	208	27	27	10	0	0
	SEPT	99	89	54	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	686	30	71	15	0	0	0	0
	OCT	97	84	50	59	0	0	0	0	0	0	0	0	0	0	0	0	744	31	652	31	40	8	0	0	0	0
	NOV	75	61	31	41	0	0	0	0	0	0	7	5	228	20	356	25	364	27	114	18	0	0	0	0	0	0
	DEC	* 73		24		0	0	0	0	8	2	22	3	194	18	322	22	269	23	83	9	0	0	0	0	0	0
	ANNUAL	109	76	24	52	0	0	0	0	11	4	94	25	1425	137	2257	161	6374	345	4880	279	668	93	104	23	0	0
1965	JAN	68	53	32	39	0	0	0	0	0	0	10	3	385	26	574	31	170	22	29	4	0	0	0	0	0	0
	FEB	73	60	32	40	0	0	0	0	0	0	0	0	255	23	387	27	285	25	91	16	0	0	0	0	0	0
	MAR	81	66	39	46	0	0	0	0	0	0	0	0	40	11	201	29	543	31	223	24	0	0	0	0	0	0
	APR	95	71	39	50	0	0	0	0	0	0	0	0	58	10	173	16	547	29	350	21	17	4	0	0	0	0
	MAY	96	81	40	56	0	0	0	0	0	0	0	0	2	1	24	6	720	31	578	31	29	7	0	0	0	0
	JUN	98	85	51	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	626	30	35	8	0	0	0	0
	JUL	104	94	61	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	177	25	13	4	0	0
	AUG	101	95	63	71	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	179	28	3	1	0	0
	SEPT	94	85	51	57	0	0	0	0	0	0	0	0	0	0	0	0	720	30	655	30	14	5	0	0	0	0
	OCT	94	83	44	55	0	0	0	0	0	0	0	0	1	1	12	3	732	31	576	31	19	5	0	0	0	0
	NOV	83	65	34	49	0	0	0	0	0	0	0	0	61	7	144	15	576	29	227	23	0	0	0	0	0	0
	DEC.	63	48	27	35	0	0	0	0	6	1	23	9	537	30	659	31	85	14	3	1	0	0	0	0	0	0
	ANNUAL	104	74	27	52	0	0	0	0	6	1	33	12	1339	109	2174	158	6586	334	4846	273	470	82	16	5	0	0
1966	JAN	65	54	28	36	0	0	0	0	1	1	19	5	427	31	591	31	153	21	17	4	0	0	0	0	0	0
	FEB	78	58	31	39	0	0	0	0	0	0	2	1	256	25	428	27	244	26	41	9	0	0	0	0	0	0
	MAR	87	69	31	45	0	0	0	0	0	0	2	1	113	13	199	22	545	31	270	28	0	0	0	0	0	0
	APR	93	82	42	54	0	0	0	0	0	0	0	0	4	2	12	5	708	30	519	30	10	2	0	0	0	0
	MAY	101	86	49	59	0	0	0	0	0	0	0	0	0	0	2	2	742	31	654	31	53	10	1	1	0	0
	JUNE	108	92	50	65	0	0	0	0	0	0	0	0	0	0	0	0	720	30	683	30	137	14	37	5	0	0
	JUL.	106	95	61	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	185	23	33	8	0	0
	AUG.	* 108		58		0	0	0	0	0	0	0	0	0	0	0	0	593	26	590	26	202	22	60	12	0	0
	SEPT	103	88	51	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	684	30	59	11	6	2	0	0
	OCT	93	80	45	54	0	0	0	0	0	0	0	0	1	1	37	9	707	31	525	31	4	2	0	0	0	0
	NOV	92	69	36	48	0	0	0	0	0	0	0	0	44	6	122	20	598	30	241	26	3	1	0	0	0	0
	DEC.	72	52	28	39	0	0	0	0	0	0	15	4	428	25	560	29	184	14	49	6	0	0	0	0	0	0
	ANNUAL	108	77	28	53	0	0	0	0	1	1	36	11	1273	103	1951	145	6658	331	5017	282	653	85	137	28	0	0
1967	JAN	69	58	25	36	0	0	0	0	10	3	72	12	339	26	496	31	248	24	74	17	0	0	0	0	0	0
	FEB	* 75		33		0	0	0	0	0	0	0	0	227	20	364	22	154	20	45	7	0	0	0	0	0	0
	MAR	60	68	35	45	0	0	0	0	0	0	0	0	83	16	200	28	544	31	239	27	0	0	0	0	0	0
	APR	70	60	36	44	0	0	0	0	0	0	0	0	100	12	325	30	395	29	77	15	0	0	0	0	0	0
	MAY	103	82	44	58	0	0	0	0	0	0	0	0	1	1	11	4	733	31	567	31	60	9	6	2	0	0
	JUN	105	86	51	64	0	0	0	0	0	0	0	0	0	0	0	0	720	30	644	30	111	16	14	2	0	0
	JUL	* 106	101	68	75	0	0	0	0	0	0	0	0	0	0	0	0	685	29	685	29	312	29	64	16	0	0
	AUG	107	102	69	76	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	350	30	112	24	0	0
	SEPT	96	91	64	69	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	100	21	0	0	0	0
	OCT	98	82	49	57	0	0	0	0	0	0	0	0	0	0	3	2	741	31	629	31	2	1	0	0	0	0
	NOV	82	67	38	51	0	0	0	0	0	0	0	0	17	5	137	11	583	29	276	20	0	0	0	0	0	0
	DEC	63	52	27	36	0	0	0	0	2	1	44	8	447	31	627	31	117	18	12	4	0	0	0	0	0	0
	ANNUAL	107	76	25	54	0	0	0	0	12	4	116	20	1214	111	2163	159	6384	333	4712	272	935	106	196	44	0	0
1968	JAN	69	53	30	37	0	0	0	0	0	0	16	3	439	24	577	25	167	20	29	8	0	0	0	0	0	0
	FEB	77	64	36	47	0	0	0	0	0	0	0	0	49	7	188	18	508	29	156	19	0	0	0	0	0	0
	MAR	84	69	40	47	0	0	0	0	0	0	0	0	38	9	184	27	560	31	254	28	0	0	0	0	0	0
	APR	91	77	42	50	0	0	0	0	0	0	0	0	11	4	78	16	642	30	416	30	5	2	0	0	0	0
	MAY	* 97	82	48	57	0	0	0	0	0	0	0	0	1	1	6	2	697	31	555	31	21	4	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (Continued)

Station B-55-110

YEAR	MONTH	RECORD IN DEGREES F				NO HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY	95	79	47	58	0	0	0	0	0	0	0	0	0	0	9	4	735	31	591	31	14	3	0	0	0	0
	JUN	101	85	52	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	644	30	57	9	3	2	0	0
	JUL	103	94	57	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	737	31	181	23	19	7	0	0
	AUG	103	95	58	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	738	31	180	27	11	4	0	0
	SEPT	107	89	57	67	0	0	0	0	0	0	0	0	0	0	0	0	720	30	697	30	95	15	7	2	0	0
	OCT.	94	74	51	57	0	0	0	0	0	0	0	0	0	0	0	0	744	31	451	29	11	2	0	0	0	0
	NOV.	74	60	37	45	0	0	0	0	0	0	0	0	159	14	315	23	405	26	113	17	0	0	0	0	0	0
	DEC.	68	47	29	34	0	0	0	0	2	1	45	10	618	31	681	31	63	7	2	1	0	0	0	0	0	0
	ANNUAL	107																									
1964	JAN	64	53	29	37	0	0	0	0	0	0	6	3	455	31	612	31	132	21	5	1	0	0	0	0	0	0
	FEB	78	60	35	39	0	0	0	0	0	0	0	0	289	29	442	29	254	29	79	14	0	0	0	0	0	0
	MAR	88	64	35	43	0	0	0	0	0	0	0	0	155	22	321	25	423	30	162	16	0	0	0	0	0	0
	APR	92	71	40	50	0	0	0	0	0	0	0	0	40	10	115	15	605	30	349	28	5	2	0	0	0	0
	MAY	93	77	42	55	0	0	0	0	0	0	0	0	10	4	70	8	674	31	531	30	8	2	0	0	0	0
	JUN	108	84	52	63	0	0	0	0	0	0	0	0	0	0	0	0	720	30	668	30	78	10	20	3	0	0
	JUL	106	96	59	71	0	0	0	0	0	0	0	0	0	0	0	0	744	31	743	31	224	28	35	9	0	0
	AUG	102	95	56	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	732	31	199	27	15	7	0	0
	SEPT	99	86	54	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	673	30	50	11	0	0	0	0
	OCT	95	82	49	61	0	0	0	0	0	0	0	0	0	0	2	2	742	31	643	31	30	8	0	0	0	0
	NOV	74	61	34	43	0	0	0	0	0	0	0	0	209	18	340	25	380	27	163	18	0	0	0	0	0	0
	DEC.	74	59	32	43	0	0	0	0	0	0	1	1	230	22	399	26	345	26	115	13	0	0	0	0	0	0
	ANNUAL	108	74	29	53	0	0	0	0	0	0	7	4	1388	136	2301	161	6483	347	4863	273	594	88	70	19	0	0
1965	JAN	69	53	32	40	0	0	0	0	0	0	1	1	339	26	575	30	169	17	27	5	0	0	0	0	0	0
	FEB	72	62	34	46	0	0	0	0	0	0	0	0	241	21	400	28	272	24	74	14	0	0	0	0	0	0
	MAR	81	65	39	45	0	0	0	0	0	0	0	0	50	15	284	30	460	30	190	24	0	0	0	0	0	0
	APR	95	69	37	49	0	0	0	0	0	0	0	0	108	14	242	18	478	28	308	18	22	4	0	0	0	0
	MAY	96	81	43	57	0	0	0	0	0	0	0	0	6	4	24	7	720	31	586	31	31	6	0	0	0	0
	JUN	97	85	48	60	0	0	0	0	0	0	0	0	0	0	5	2	715	30	644	30	43	10	0	0	0	0
	JUL.	101	92	59	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	743	31	148	23	2	1	0	0
	AUG	99	93	63	71	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	142	22	0	0	0	0
	SEPT	* 94	83	55	62	0	0	0	0	0	0	0	0	0	0	0	0	634	27	554	27	12	3	0	0	0	0
	OCT																										
	NOV																										
	DEC.																										
	ANNUAL	101																									
1966	JAN	* 62	53	32	39	0	0	0	0	0	0	1	1	357	29	535	29	148	19	5	3	0	0	0	0	0	0
	FEB	75	56	32	38	0	0	0	0	0	0	0	0	286	26	443	26	229	23	28	7	0	0	0	0	0	0
	MAR	84	67	33	47	0	0	0	0	0	0	0	0	83	11	181	20	563	29	220	24	0	0	0	0	0	0
	APR	90	80	46	56	0	0	0	0	0	0	0	0	0	0	15	5	705	30	534	30	3	2	0	0	0	0
	MAY	97	84	49	62	0	0	0	0	0	0	0	0	0	0	2	1	742	31	649	31	33	7	0	0	0	0
	JUN	105	90	51	66	0	0	0	0	0	0	0	0	0	0	0	0	720	30	692	30	122	15	10	3	0	0
	JUL	* 103	94	56	68	0	0	0	0	0	0	0	0	0	0	0	0	676	29	670	29	162	23	12	4	0	0
	AUG	* 105	96	57	72	0	0	0	0	0	0	0	0	0	0	0	0	729	31	721	31	247	26	56	11	0	0
	SEPT	100	85	52	64	0	0	0	0	0	0	0	0	0	0	0	0	720	30	685	30	42	7	1	1	0	0
	OCT.	91	78	47	57	0	0	0	0	0	0	0	0	0	0	12	3	732	31	546	31	3	1	0	0	0	0
	NOV	90	66	38	50	0	0	0	0	0	0	0	0	50	7	145	14	575	30	255	22	2	1	0	0	0	0
	DEC	69	50	29	38	0	0	0	0	0	0	16	5	468	24	595	29	149	13	41	5	0	0	0	0	0	0
	ANNUAL	105	75	29	54	0	0	0	0	0	0	17	6	1244	97	1928	127	6688	326	5046	273	614	82	79	19	0	0
1967	JAN	66	57	27	39	0	0	0	0	2	2	11	4	333	26	517	31	227	24	48	12	0	0	0	0	0	0
	FEB	71	58	35	41	0	0	0	0	0	0	0	0	198	18	446	28	226	23	64	12	0	0	0	0	0	0
	MAR	75	66	37	46	0	0	0	0	0	0	0	0	81	12	208	27	536	31	212	27	0	0	0	0	0	0
	APR	65	58	39	42	0	0	0	0	0	0	0	0	173	24	390	30	330	29	47	10	0	0	0	0	0	0
	MAY	100	80	43	60	0	0	0	0	0	0	0	0	3	1	17	6	727	31	671	31	50	9	1	2	0	0
	JUN.	103	87	49	64	0	0	0	0	0	0	0	0	0	0	2	1	718	31	640	30	103	16	11	2	0	0
	JUL.	105	100	69	76	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	307	31	59	14	0	0
	AUG	106	101	65	76	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	338	31	92	22	0	0
	SEPT	* 97	90	61	70	0	0	0	0	0	0	0	0	0	0	0	0	649	28	649	28	97	18	0	0	0	0
	OCT	93	81	52	59	0	0	0	0	0	0	0	0	0	0	0	0	744	31	653	31	2	1	0	0	0	0
	NOV	83	65	39	51	0	0	0	0	0	0	0	0	31	6	170	11	550	28	268	20	0	0	0	0	0	0
	DEC	62	51	26	35	0	0	0	0	15	2	38	5	460	30	651	31	93	16	2	1	0	0	0	0	0	0
	ANNUAL	106	75	26	55	0	0	0	0	17	4	49	9	1279	117	2401	165	6288	333	4742	264	897	106	163	40	0	0
1968	JAN	66	52	27	38	0	0	0	0	6	2	42	4	382	28	557	30	187	20	21	7	0	0	0	0	0	0
	FEB	75	61	37	48	0	0	0	0	0	0	0	0	53	8	220	17	476	27	115	15	0	0	0	0	0	0
	MAR	83	66	40	47	0	0	0	0	0	0	0	0	63	11	225	24	519	31	220	24	0	0	0	0	0	0
	APR	89	73	42	52	0	0	0	0	0	0	0	0	6	4	69	15	651	30	413	28	0	0	0	0	0	0
	MAY	94	80	46	58	0	0	0	0	0	0	0	0	0	0	11	2	733	31	603	31	12	4	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)

Station C-20-040

YEAR	MONTH	RECORD IN DEGREES F				NO HRS. TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤80		>90		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS.	DAYS	HRS	DAYS	HRS	DAYS	HRS.	DAYS	HRS	DAYS	HRS	DAYS	HRS.	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR	80		32																							
	APR	83	68	32	44	0	0	0	0	0	0	0	0	91	17	207	25	513	30	242	27	0	0	0	0	0	0
	MAY	98	82	44	56	0	0	0	0	0	0	0	0	2	1	16	4	728	31	589	31	23	5	0	0	0	0
	JUN	105	89	50	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	651	30	85	12	16	4	0	0
	JUL	103	96	53	63	0	0	0	0	0	0	0	0	0	0	0	0	744	31	731	31	189	24	30	7	0	0
	AUG.	103	95	55	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	728	31	182	26	13	4	0	0
	SEPT	106	91	56	64	0	0	0	0	0	0	0	0	0	0	0	0	720	30	698	30	89	16	13	3	0	0
	OCT.	97	77	44	54	0	0	0	0	0	0	0	0	1	1	31	9	713	31	492	31	15	3	0	0	0	0
	NOV.	76	63	34	42	0	0	0	0	0	0	0	0	185	21	334	28	386	27	155	18	0	0	0	0	0	0
	DEC.	63	46	23	32	0	0	1	1	23	5	75	13	642	31	716	31	28	5	2	1	0	0	0	0	0	0
	ANNUAL	106																									
1964	JAN	66	54	25	33	0	0	0	0	17	6	73	14	457	31	599	31	145	23	14	5	0	0	0	0	0	0
	FEB	74	63	28	33	0	0	0	0	1	1	30	10	341	29	451	29	245	29	105	20	0	0	0	0	0	0
	MAR	86	66	27	37	0	0	0	0	3	2	25	7	249	30	383	31	361	30	158	21	0	0	0	0	0	0
	APR	95	74	35	44	0	0	0	0	0	0	0	0	99	17	197	23	523	30	324	29	10	2	0	0	0	0
	MAY	97	80	35	49	0	0	0	0	0	0	0	0	42	8	96	14	648	31	451	29	18	3	0	0	0	0
	JUN	110	91	50	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	628	30	99	14	34	5	0	0
	JUL.	111	99	56	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	735	31	261	29	63	11	1	1
	AUG	104	97	55	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	726	31	215	27	50	11	0	0
	SEPT	* 100	89	50	56	0	0	0	0	0	0	0	0	0	0	3	3	678	29	556	29	70	12	0	0	0	0
	OCT	* 96	83	45	53	0	0	0	0	0	0	0	0	4	2	30	6	605	27	427	27	29	7	0	0	0	0
	NOV	76	62	26	38	0	0	0	0	14	4	53	9	273	22	413	28	307	27	108	16	0	0	0	0	0	0
	DEC.	77	60	25	39	0	0	0	0	11	2	30	5	289	22	409	27	335	28	132	15	0	0	0	0	0	0
	ANNUAL	111	77	25	49	0	0	0	0	46	15	211	45	1754	161	2581	192	6055	346	4364	283	702	94	147	27	1	1
1965	JAN	72	54	28	36	0	0	0	0	3	2	79	12	403	28	587	30	157	21	33	4	0	0	0	0	0	0
	FEB.	75	62	28	37	0	0	0	0	5	3	27	6	343	27	431	28	241	25	96	17	0	0	0	0	0	0
	MAR	83	68	35	43	0	0	0	0	0	0	0	0	114	23	302	30	442	30	201	28	0	0	0	0	0	0
	APR	96	72	35	49	0	0	0	0	0	0	0	0	60	9	168	17	552	30	316	20	21	5	0	0	0	0
	MAY	100	83	39	52	0	0	0	0	0	0	0	0	15	5	42	11	702	31	529	31	36	8	0	0	0	0
	JUN	99	87	45	56	0	0	0	0	0	0	0	0	0	0	8	3	712	30	596	30	65	12	0	0	0	0
	JUL.	104	96	55	64	0	0	0	0	0	0	0	0	0	0	0	0	744	31	729	31	198	26	35	11	0	0
	AUG	103	96	57	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	739	31	188	28	15	6	0	0
	SEPT	95	85	47	55	0	0	0	0	0	0	0	0	0	0	9	3	711	30	548	30	26	7	0	0	0	0
	OCT.	* 96		40		0	0	0	0	0	0	0	0	0	0	0	0	72	3	50	3	7	2	0	0	0	0
	NOV			31																							
	DEC.	64		24																							
	ANNUAL	104		24																							
1966	JAN	* 65		24		0	0	0	0	16	5	65	13	293	21	378	23	132	20	21	6	0	0	0	0	0	0
	FEB	76	59	24	35	0	0	0	0	6	1	40	9	298	25	451	28	221	25	54	12	0	0	0	0	0	0
	MAR	87	70	24	41	0	0	0	0	8	2	17	3	127	21	264	28	480	31	250	28	0	0	0	0	0	0
	APR	94	82	39	50	0	0	0	0	0	0	0	0	13	3	60	4	660	30	461	30	14	3	0	0	0	0
	MAY	102	87	47	55	0	0	0	0	0	0	0	0	0	0	10	5	734	31	614	31	71	13	7	2	0	0
	JUN.	110	93	47	60	0	0	0	0	0	0	0	0	0	0	9	3	711	30	665	30	148	18	33	7	0	0
	JUL.	104	96	55	63	0	0	0	0	0	0	0	0	0	0	0	0	744	31	729	31	190	25	37	8	0	0
	AUG.	107	99	51	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	727	31	253	28	83	17	0	0
	SEPT	101	88	47	58	0	0	0	0	0	0	0	0	0	0	8	3	712	30	631	30	55	11	1	1	0	0
	OCT.	92	80	38	49	0	0	0	0	0	0	0	0	40	9	109	19	635	31	445	31	5	2	0	0	0	0
	NOV	88	68	29	43	0	0	0	0	0	0	4	1	109	15	257	27	463	30	191	22	0	0	0	0	0	0
	DEC	69	51	26	38	0	0	0	0	12	4	40	5	470	27	613	30	131	13	34	4	0	0	0	0	0	0
	ANNUAL	110	78	24	50	0	0	0	0	42	12	166	31	1350	121	2159	170	6367	333	4822	286	736	100	161	35	0	0
1967	JAN	66	56	24	33	0	0	3	1	41	9	113	14	407	29	550	31	194	23	42	13	0	0	0	0	0	0
	FEB	72	57	28	36	0	0	0	0	0	0	0	0	356	27	480	28	192	22	39	8	0	0	0	0	0	0
	MAR.	76	66	28	41	0	0	0	0	1	1	8	2	143	22	270	29	474	31	198	26	0	0	0	0	0	0
	APR	72	61	32	40	0	0	0	0	0	0	1	1	197	27	362	30	358	30	79	16	0	0	0	0	0	0
	MAY	105	83	38	55	0	0	0	0	0	0	0	0	9	4	35	10	709	31	519	31	77	11	8	3	0	0
	JUN.	* 107	89	45	60	0	0	0	0	0	0	0	0	0	0	9	3	674	30	593	30	127	16	22	5	0	0
	JUL.	109	102	61	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	318	31	107	20	0	0
	AUG	110	103	63	71	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	319	31	137	27	2	1
	SEPT	100	92	60	65	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	112	21	1	1	0	0
	OCT.	91	83	42	52	0	0	0	0	0	0	0	0	7	2	46	12	698	31	481	31	4	3	0	0	0	0
	NOV	85	68	35	46	0	0	0	0	0	0	0	0	46	9	207	25	513	30	223	21	0	0	0	0	0	0
	DEC.	64	53	25	31	0	0	0	0	23	6	127	19	506	31	628	31	116	20	15	5	0	0	0	0	0	0
	ANNUAL	110	76	24	50	0	0	3	1	65	15	271	42	1666	151	2581	199	6136	340	4397	273	957	113	275	56	2	1
1968	JAN	70	55	25	34	0	0	0	0	7	3	77	14	457	27	561	31	183	22	35	9	0	0	0	0	0	0
	FEB	75	64	32	45	0	0	0	0	0	0	1	1	71	11	234	23	462	29	140	19	0	0	0	0	0	0
	MAR	85	69	36	43	0	0	0	0	0	0	0	0	100	23	248	30	496	31	246	29	0	0	0	0	0	0
	APR	92	77	36	45	0	0	0	0	0	0	0	0	53	14	145	23	575	30	390	30	10	2	0	0	0	0
	MAY	99	84	42	53	0	0	0	0	0	0	0	0	4	2	36	12	708	31	545	31	31	7	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)

Station C-40-070

YEAR	MONTH	RECORD IN DEGREES F				NO HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR	* 80		33		0	0	0	0	0	0	0	0	83	13	163	19	302	27	152	18	0	0	0	0	0	0
	APR	81	66	33	46	0	0	0	0	0	0	0	0	80	14	188	24	532	29	241	24	0	0	0	0	0	0
	MAY	99	82	49	58	0	0	0	0	0	0	0	0	0	0	4	2	740	31	619	28	30	5	0	0	0	0
	JUN	105	88	54	63	0	0	0	0	0	0	0	0	0	0	0	0	720	30	681	30	84	17	20	4	0	0
	JUL	105	97	57	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	196	25	38	9	0	0
	AUG	104	96	51	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	733	31	182	26	21	7	0	0
	SEPT	106	90	58	66	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	111	15	14	4	0	0
	OCT	98	76	49	57	0	0	0	0	0	0	0	0	0	0	5	2	739	31	515	31	19	3	0	0	0	0
	NOV	76	62	36	45	0	0	0	0	0	0	0	0	176	17	277	24	443	27	154	16	0	0	0	0	0	0
	DEC.	60	47	25	32	0	0	0	0	8	2	83	20	622	31	696	31	48	8	0	0	0	0	0	0	0	0
	ANNUAL	106																				-					
1964	JAN	67	54	27	35	0	0	0	0	6	4	41	7	432	30	585	31	159	23	12	3	0	0	0	0	0	0
	FEB	73	63	33	38	0	0	0	0	0	0	0	0	274	29	422	29	274	29	102	20	0	0	0	0	0	0
	MAR	86	66	30	41	0	0	0	0	0	0	2	1	171	21	319	27	425	31	156	19	0	0	0	0	0	0
	APR	94	74	34	48	0	0	0	0	0	0	0	0	59	12	147	20	573	30	328	29	8	2	0	0	0	0
	MAY	96	78	38	52	0	0	0	0	0	0	0	0	20	7	86	8	658	30	498	29	14	3	0	0	0	0
	JUN	109	86	51	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	645	30	90	12	30	5	0	0
	JUL	110	98	57	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	739	31	243	28	54	11	0	0
	AUG	103	97	56	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	733	31	209	27	34	10	0	0
	SEPT	101	88	50	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	636	30	60	12	1	1	0	0
	OCT	97	84	45	57	0	0	0	0	0	0	0	0	1	1	16	6	728	31	565	31	38	9	0	0	0	0
	NOV	75	61	29	41	0	0	0	0	0	0	15	5	249	21	363	26	357	29	99	16	0	0	0	0	0	0
	DEC.	75	59	22	41	0	0	2	1	9	2	21	3	265	22	361	26	383	29	109	12	0	0	0	0	0	0
	ANNUAL	110	76	22	51	0	0	2	1	15	6	79	16	1471	143	2299	173	6485	354	4652	281	662	93	119	27	0	0
1965	JAN	67	53	28	38	0	0	0	0	2	1	28	6	374	27	567	30	177	22	27	4	0	0	0	0	0	0
	FEB	76	61	31	39	0	0	0	0	2	1	7	3	265	24	387	28	285	25	104	17	0	0	0	0	0	0
	MAR	79	67	39	45	0	0	0	0	0	0	0	0	38	12	230	25	514	31	203	28	0	0	0	0	0	0
	APR	95	70	36	49	0	0	0	0	0	0	0	0	75	11	208	19	512	30	310	19	15	4	0	0	0	0
	MAY	* 98	82	38		0	0	0	0	0	0	0	0	11	4	35	7	581	27	470	27	30	6	0	0	0	0
	JUN	* 99	87	46		0	0	0	0	0	0	0	0	0	0	6	2	583	25	501	25	41	11	0	0	0	0
	JUL.	104	97	57	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	737	31	207	28	34	12	0	0
	AUG	103	97	61	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	199	30	20	7	0	0
	SEPT	96	86	54	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	653	30	40	11	0	0	0	0
	OCT	96	83	44	55	0	0	0	0	0	0	0	0	4	2	15	3	729	31	578	31	22	6	0	0	0	0
	NOV	81	63	33	47	0	0	0	0	0	0	0	0	74	6	172	18	548	29	202	21	0	0	0	0	0	0
	DEC.	62	46	25	33	0	0	0	0	17	5	128	12	587	31	691	31	53	7	4	1	0	0	0	0	0	0
	ANNUAL	104	74	25	51	0	0	0	0	21	7	163	21	1428	117	2311	163	6190	319	4533	265	554	96	54	19	0	0
1966	JAN	64	53	28	35	0	0	0	0	0	0	43	10	459	30	580	31	164	21	16	4	0	0	0	0	0	0
	FEB	74	57	30	37	0	0	0	0	0	0	13	5	305	25	474	28	198	25	35	10	0	0	0	0	0	0
	MAR	86	69	29	43	0	0	0	0	0	0	11	2	125	18	233	26	511	28	255	28	0	0	0	0	0	0
	APR	93	80	41	52	0	0	0	0	0	0	0	0	7	5	40	10	680	30	502	30	13	3	0	0	0	0
	MAY	100	85	47	57	0	0	0	0	0	0	0	0	0	0	6	3	738	31	592	30	76	11	0	0	0	0
	JUN	109	92	47	62	0	0	0	0	0	0	0	0	0	0	2	1	718	30	638	29	138	16	34	7	0	0
	JUL.	107	96	55	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	735	31	180	22	49	10	0	0
	AUG	107	99	52	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	731	31	264	27	99	17	0	0
	SEPT	101	88	49	62	0	0	0	0	0	0	0	0	0	0	2	1	718	30	592	28	57	10	7	2	0	0
	OCT	92	80	44	53	0	0	0	0	0	0	0	0	8	3	52	10	692	31	512	31	3	1	0	0	0	0
	NOV	* 86	69	35	48	0	0	0	0	0	0	0	0	34	8	116	18	478	25	216	23	0	0	0	0	0	0
	DEC.	67	49	33	38	0	0	0	0	0	0	22	5	468	26	594	31	150	12	37	4	0	0	0	0	0	0
	ANNUAL	109	73	28	52	0	0	0	0	0	0	89	22	1406	115	2099	159	5535	325	4861	279	731	90	189	36	0	0
1967	JAN	65	55	24	35	0	0	0	0	9	5	78	12	375	29	507	31	237	26	47	8	0	0	0	0	0	0
	FEB	74	57	32	38	0	0	0	0	0	0	2	1	344	27	464	28	208	22	50	10	0	0	0	0	0	0
	MAR	75	65	33	43	0	0	0	0	0	0	0	0	117	21	266	29	478	31	223	27	0	0	0	0	0	0
	APR	67	59	32	40	0	0	0	0	0	0	0	0	175	28	385	30	335	30	63	14	0	0	0	0	0	0
	MAY	105	83	40	57	0	0	0	0	0	0	0	0	4	1	22	6	722	31	566	31	77	11	12	3	0	0
	JUN	108	89	50	62	0	0	0	0	0	0	0	0	0	0	2	2	718	30	633	30	122	16	17	4	0	0
	JUL	109	102	65	73	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	319	31	89	19	0	0
	AUG	111	102	68	74	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	322	31	122	25	2	1
	SEPT	99	91	62	67	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	99	18	0	0	0	0
	OCT	89	81	47	55	0	0	0	0	0	0	0	0	0	0	10	3	734	31	594	30	0	0	0	0	0	0
	NOV	84	67	35	49	0	0	0	0	0	0	0	0	43	8	149	14	571	30	253	21	0	0	0	0	0	0
	DEC.	63	52	23	33	0	0	2	1	23	6	99	15	515	31	625	31	119	20	8	3	0	0	0	0	0	0
	ANNUAL	111	76	23	* 53	0	0	2	1	32	11	179	28	1573	145	2430	174	8330	343	4645	266	939	107	240	51	2	1
1968	JAN	70	55	25	36	0	0	0	0	8	2	57	8	405	27	534	31	210	21	52	10	0	0	0	0	0	0
	FEB	74	64	34	48	0	0	0	0	0	0	0	0	50	9	155	18	541	29	167	20	0	0	0	0	0	0
	MAR	84	69	39	47	0	0	0	0	0	0	0	0	59	14	178	25	178	31	263	28	0	0	0	0	0	0
	APR	93	75	39	49	0	0	0	0	0	0	0	0	21	9	85	18	635	30	434	30	4	2	0	0	0	0
	MAY	98	82	47	56	0	0	0	0	0	0	0	0	0	0	12	4	732	31	607	31	23	4	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)
Station C-60-108

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤48		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS.	DAYS	HRS.	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB.																										
	MAR	* 77	65	33	43	0	0	0	0	0	0	0	0	121	19	266	27	369	27	134	21	0	0	0	0	0	0
	APR	81	66	33	44	0	0	0	0	0	0	0	0	114	19	244	24	476	30	211	24	0	0	0	0	0	0
	MAY	93	78	45	57	0	0	0	0	0	0	0	0	0	0	33	5	711	31	543	31	10	3	0	0	0	0
	JUN.	103	86	55	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	669	30	53	9	4	2	0	0
	JUL.	101	93	55	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	731	31	160	22	5	3	0	0
	AUG	104	94	53	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	681	31	145	23	7	2	0	0
	SEPT	* 106		57		0	0	0	0	0	0	0	0	0	0	0	0	564	24	539	24	75	11	8	2	0	0
	OCT	95	74	47	55	0	0	0	0	0	0	0	0	0	0	14	3	730	31	463	30	13	3	0	0	0	0
	NOV	76	61	35	44	0	0	0	0	0	0	0	0	185	18	317	24	403	27	136	15	0	0	0	0	0	0
	DEC.	65	46	26	32	0	0	0	0	7	2	86	15	628	31	681	31	63	9	4	2	0	0	0	0	0	0
	ANNUAL	106																									
1964	JAN	63	53	29	35	0	0	0	0	0	0	9	4	482	31	612	31	132	20	4	2	0	0	0	0	0	0
	FEB	70	60	29	36	0	0	0	0	0	0	6	4	351	29	459	29	237	25	66	13	0	0	0	0	0	0
	MAR	82	61	31	41	0	0	0	0	0	0	4	3	234	24	361	27	383	28	142	18	0	0	0	0	0	0
	APR	91	71	35	47	0	0	0	0	0	0	0	0	71	13	158	19	562	30	315	25	2	1	0	0	0	0
	MAY	92	76	37	52	0	0	0	0	0	0	0	0	33	7	102	9	642	31	451	31	6	2	0	0	0	0
	JUN.	106	87	51	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	640	30	70	10	19	3	0	0
	JUL.	108	97	56	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	738	31	191	28	44	9	0	0
	AUG	101	95	54	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	730	31	181	27	10	6	0	0
	SEPT	99	87	50	60	0	0	0	* 0	0	0	0	0	0	0	0	0	720	30	641	29	46	11	0	0	0	0
	OCT.	94	81	48	58	0	0	0	0	0	0	0	0	0	0	12	4	732	31	618	31	11	4	0	0	0	0
	NOV.	73	58	31	41	0	0	0	0	0	0	2	2	240	22	399	26	321	27	64	13	0	0	0	0	0	0
	DEC.	73	57	30	42	0	0	0	0	0	0	6	2	254	22	400	26	344	25	89	11	0	0	0	0	0	0
	ANNUAL	108	74	29	51	0	0	0	0	0	0	27	15	1665	148	2503	171	6281	343	4498	265	507	83	73	18	0	0
1965	JAN	67	53	31	39	0	0	0	0	0	0	12	2	366	28	564	30	180	21	19	4	0	0	0	0	0	0
	FEB	73	60	27	39	0	0	0	0	1	1	4	1	268	23	401	28	271	25	72	11	0	0	0	0	0	0
	MAR	78	65	40	46	0	0	0	0	0	0	0	0	23	9	272	30	472	31	149	24	0	0	0	0	0	0
	APR	92	68	37	50	0	0	0	0	0	0	0	0	67	9	241	18	479	30	297	18	5	3	0	0	0	0
	MAY	96	80	40	55	0	0	0	0	0	0	0	0	9	4	36	7	708	31	564	31	16	3	0	0	0	0
	JUN	97	84	47	59	0	0	0	0	0	0	0	0	0	0	4	1	716	30	615	29	31	9	0	0	0	0
	JUL.	103	94	57	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	687	31	171	24	8	4	0	0
	AUG	101	95	61	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	164	26	6	4	0	0
	SEPT	92	83	54	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	640	30	11	4	0	0	0	0
	OCT.	92	81	42	57	0	0	0	0	0	0	0	0	2	1	9	3	735	31	577	31	5	2	0	0	0	0
	NOV	79	63	35	48	0	0	0	0	0	0	0	0	83	7	195	20	525	29	149	19	0	0	0	0	0	0
	DEC.	63	48	26	35	0	0	0	0	0	5	2	84	8	567	31	694	31	50	9	1	1	0	0	0	0	0
	ANNUAL	103	73	26	52	0	0	0	0	6	3	100	11	1385	112	2416	168	6344	325	4514	260	403	71	14	8	0	0
1966	JAN	58	52	29	36	0	0	0	0	0	0	20	7	468	31	614	31	130	18	0	0	0	0	0	0	0	0
	FEB	72	55	31	38	0	0	0	0	0	0	6	2	316	24	498	28	174	25	7	3	0	0	0	0	0	0
	MAR	86	67	29	41	0	0	0	0	0	0	6	2	147	21	266	27	478	29	204	25	0	0	0	0	0	0
	APR	91	79	42	53	0	0	0	0	0	0	0	0	6	3	60	13	660	30	445	30	8	3	0	0	0	0
	MAY	96	84	48	57	0	0	0	0	0	0	0	0	0	0	14	5	730	31	602	31	37	9	0	0	0	0
	JUN.	102	90	47	63	0	0	0	0	0	0	0	0	0	0	8	3	712	30	672	30	118	15	6	2	0	0
	JUL.	103	93	55	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	724	31	150	22	22	5	0	0
	AUG.	105	97	53	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	727	31	239	26	71	14	0	0
	SEPT	99	85	51	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	654	30	38	7	0	0	0	0
	OCT.	90	77	45	54	0	0	0	0	0	0	0	0	8	2	26	6	718	31	546	31	0	0	0	0	0	0
	NOV	86	64	36	48	0	0	0	0	0	0	0	0	87	9	224	21	496	27	191	20	0	0	0	0	0	0
	DEC.	65	47	30	39	0	0	0	0	0	0	17	4	517	27	622	29	122	13	26	3	0	0	0	0	0	0
	ANNUAL	105	74	29	52	0	0	0	0	0	0	49	15	1549	117	2332	163	6426	325	4798	265	590	82	99	21	0	0
1967	JAN.	65	53	27	37	0	0	0	0	6	4	68	9	398	30	534	31	210	24	32	8	0	0	0	0	0	0
	FEB	71	55	32	40	0	0	0	0	0	0	2	1	329	26	498	28	174	21	38	9	0	0	0	0	0	0
	MAR	77	63	30	42	0	0	0	0	0	0	1	1	139	25	321	29	423	31	144	21	0	0	0	0	0	0
	APR.	65	58	33	40	0	0	0	0	0	0	0	0	245	28	439	30	281	28	34	9	0	0	0	0	0	0
	MAY	101	81	41	57	0	0	0	0	0	0	0	0	8	2	35	7	709	31	546	31	67	11	6	3	0	0
	JUN.	105	87	47	60	0	0	0	0	0	0	0	0	0	0	14	4	706	30	610	30	96	16	10	2	0	0
	JUL.	105	100	62	73	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	297	31	57	14	0	0
	AUG.	108	101	66	75	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	317	31	76	19	0	0
	SEPT.	96	89	62	65	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	70	17	2	1	0	0
	OCT	87	79	47	55	0	0	0	0	0	0	0	0	0	0	17	4	727	31	544	31	0	0	0	0	0	0
	NOV	* 68	65	34	49	0	0	0	0	0	0	0	0	50	6	160	15	543	28	230	20	0	0	0	0	0	0
	DEC.	* 63		22		0	0	1	1	3	1	28	7	382	25	485	26	88	13	7	3	0	0	0	0	0	0
	ANNUAL	108	74	22	53	0	0	1	1	9	5	99	18	1551	142	2503	174	6069	329	4393	254	847	106	151	39	0	0
1968	JAN.	69	54	26	37	0	0	0	0	15	3	70	9	418	29	550	31	194	20	38	7	0	0	0	0	0	0
	FEB.	74	62	35	48	0	0	0	0	0	0	0	0	44	9	202	18	494	29	136	17	0	0	0	0	0	0
	MAR.	83	67	39	46	0	0	0	0	0	0	0	0	54	12	202	25	542	31	222	23	0	0	0	0	0	0
	APR.	89	74	39	49	0	0	0	0	0	0	0	0	18	6	114	18	606	30	387	29	0	0	0	0	0	0
	MAY	96	81	46	56	0	0	0	0	0	0	0	0	0	0	27	8	717	31	531	31	16	3	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)
Station D-05-028

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS.	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB.																										
	MAR																										
	APR																										
	MAY	* 99	83	45	60	0	0	0	0	0	0	0	0	1	1	3	1	712	31	611	30	28	5	0	0	0	0
	JUN.	107	89	56	64	0	0	0	0	0	0	0	0	0	0	0	0	720	30	697	30	92	14	20	5	0	0
	JUL.	109	99	61	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	208	25	80	18	0	0
	AUG.	* 109	98	55	67	0	0	0	0	0	0	0	0	0	0	0	0	725	31	717	31	232	25	53	13	0	0
	SEPT	* 109	93	60	67	0	0	0	0	0	0	0	0	0	0	0	0	694	30	694	30	131	19	29	8	0	0
	OCT	* 98	77	49	59	0	0	0	0	0	0	0	0	0	0	2	1	657	28	548	28	19	3	0	0	0	0
	NOV	81	64	38	47	0	0	0	0	0	0	0	0	80	13	244	22	476	27	186	20	0	0	0	0	0	0
	DEC.	* 60	47	29	36	0	0	0	0	0	0	8	4	606	31	675	31	43	8	2	1	0	0	0	0	0	0
	ANNUAL	109																									
1964	JAN	* 67	56	29	36	0	0	0	0	0	0	15	7	340	28	532	31	182	27	31	7	0	0	0	0	0	0
	FEB	* 76	63	29	37	0	0	0	0	0	0	2	1	271	29	401	29	289	29	112	20	0	0	0	0	0	0
	MAR	89	66	32	42	0	0	0	0	0	0	1	1	136	21	315	29	429	31	190	22	0	0	0	0	0	0
	APR	96	75	40	50	0	0	0	0	0	0	0	0	38	7	111	17	609	30	390	29	11	2	0	0	0	0
	MAY	* 99	78	43	56	0	0	0	0	0	0	0	0	4	1	50	8	678	31	505	30	29	5	0	0	0	0
	JUN	* 111	90	54	63	0	0	0	0	0	0	0	0	0	0	0	0	712	30	663	30	98	15	35	6	2	1
	JUL.	111	101	57	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	739	31	273	30	97	18	2	2
	AUG	106	99	59	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	732	31	236	30	77	16	0	0
	SEPT.	104	90	55	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	634	30	71	15	2	1	0	0
	OCT	98	85	48	58	0	0	0	0	0	0	0	0	0	0	5	2	739	31	632	31	53	10	0	0	0	0
	NOV.	76	61	28	42	0	0	0	0	1	1	12	4	200	20	349	24	371	27	102	16	0	0	0	0	0	0
	DEC.	75	59	30	43	0	0	0	0	0	0	6	3	225	18	396	28	348	27	106	13	0	0	0	0	0	0
	ANNUAL	111	77	28	52	0	0	0	0	1	1	36	16	1214	124	2159	168	6566	355	4836	290	771	107	211	41	4	3
1965	JAN	68	54	29	40	0	0	0	0	0	0	6	4	283	23	538	30	206	20	25	4	0	0	0	0	0	0
	FEB.	76	62	28	39	0	0	0	0	2	1	12	4	249	25	384	28	288	25	109	17	0	0	0	0	0	0
	MAR	82	66	37	47	0	0	0	0	0	0	0	0	31	10	189	28	555	31	220	28	0	0	0	0	0	0
	APR	96	72	40	51	0	0	0	0	0	0	0	0	42	7	148	16	572	30	333	23	23	4	0	0	0	0
	MAY	100	82	38	54	0	0	0	0	0	0	0	0	10	3	32	8	712	31	549	31	35	7	4	2	0	0
	JUN	101	87	48	59	0	0	0	0	0	0	0	0	0	0	3	1	717	30	606	30	67	10	2	1	0	0
	JUL.	107	98	58	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	729	31	222	25	72	16	0	0
	AUG	106	99	61	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	237	31	64	18	0	0
	SEPT	96	87	50	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	628	30	47	11	0	0	0	0
	OCT.	98	85	40	54	0	0	0	0	0	0	0	0	7	1	16	3	728	31	541	31	32	8	0	0	0	0
	NOV	82	64	31	47	0	0	0	0	0	0	2	1	89	7	200	20	520	28	185	20	0	0	0	0	0	0
	DEC.	62	47	27	36	0	0	0	0	4	3	38	9	562	31	683	31	61	8	4	1	0	0	0	0	0	0
	ANNUAL	107	76	27	52	0	0	0	0	6	4	58	18	1273	107	2193	165	6567	326	4673	277	663	96	142	37	0	0
1966	JAN.	* 64	55	27	38	0	0	0	0	1	1	28	9	361	30	536	31	159	24	13	5	0	0	0	0	0	0
	FEB.	75	58	29	37	0	0	0	0	0	0	11	6	283	24	440	28	323	26	40	10	0	0	0	0	0	0
	MAR.	88	71	30	44	0	0	0	0	0	0	8	2	74	14	185	26	559	31	276	28	0	0	0	0	0	0
	APR.	95	82	42	52	0	0	0	0	0	0	0	0	4	2	21	6	699	30	510	30	17	4	0	0	0	0
	MAY	102	87	49	58	0	0	0	0	0	0	0	0	0	0	1	1	743	31	623	31	61	12	1	1	0	0
	JUN	* 110	93	50	62	0	0	0	0	0	0	0	0	0	0	0	0	694	30	649	30	129	16	45	8	2	1
	JUL.	109	98	57	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	739	31	226	17	24	14	0	0
	AUG.	111	102	56	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	737	31	285	22	145	22	3	1
	SEPT.	104	90	51	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	686	30	73	12	14	3	0	0
	OCT.	* 94	82	41	53	0	0	0	0	0	0	0	0	8	4	47	9	671	31	500	30	9	3	0	0	0	0
	NOV	86	69	35	47	0	0	0	0	0	0	0	0	54	8	133	20	587	30	255	25	0	0	0	0	0	0
	DEC.	69	52	26	41	0	0	0	0	2	1	18	4	392	24	567	28	177	14	35	5	0	0	0	0	0	0
	ANNUAL	111	78	26	53	0	0	0	0	3	2	65	21	1176	106	1930	149	6729	339	5063	286	800	86	279	48	5	2
1967	JAN.	64	56	28	36	0	0	0	0	2	1	46	8	381	27	517	31	227	31	35	13	0	0	0	0	0	0
	FEB.	* 74	57	29	40	0	0	0	0	0	0	4	2	279	25	419	26	178	18	41	8	0	0	0	0	0	0
	MAR	76	66	33	45	0	0	0	0	0	0	0	0	101	15	218	27	526	31	224	27	0	0	0	0	0	0
	APR.	* 68	60	37	43	0	0	0	0	0	0	0	0	121	21	312	30	404	30	95	16	0	0	0	0	0	0
	MAY	104	82	43	56	0	0	0	0	0	0	0	0	4	1	28	9	716	31	549	31	77	11	9	3	0	0
	JUN.	109	89	49	62	0	0	0	0	0	0	0	0	0	0	1	1	719	30	638	30	132	16	20	3	0	0
	JUL.	111	102	64	73	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	326	31	120	22	0	0
	AUG.	113	104	66	74	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	337	31	149	28	3	1
	SEPT.	100	92	63	68	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	107	18	1	1	0	0
	OCT.	91	82	47	55	0	0	0	0	0	0	0	0	0	0	4	1	740	31	551	31	0	0	0	0	0	0
	NOV.	* 84	68	40	49	0	0	0	0	0	0	0	0	19	4	86	14	514	28	209	18	0	0	0	0	0	0
	DEC.	* 63		28	34	0	0	0	0	14	3	47	7	388	25	479	26	121	17	14	5	0	0	0	0	0	0
	ANNUAL	113	76	24	53	0	0	0	0	16	4	97	17	1293	118	2064	165	6353	339	4564	271	979	107	299	57	3	1
1968	JAN.	69	55	29	36	0	0	0	0	0	0	13	6	431	29	546	31	198	22	32	9	0	0	0	0	0	0
	FEB.	* 76	64	35	49	0	0	0	0	0	0	0	0	38	8	145	15	527	29	168	19	0	0	0	0	0	0
	MAR.	83	68	39	43	0	0	0	0	0	0	0	0	47	11	168	26	576	31	186	28	0	0	0	0	0	0
	APR	92	76	40	49	0	0	0	0	0	0	0	0	15	6	77	16	643	30	415	30	5	2	0	0	0	0
	MAY	101	85	46	58	0	0	0	0	0	0	0	0	0	0	4	1	740	31	623	31	43	9	3	1	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)

Station D-40-080

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN	69	56	17	33	8	2	17	4	47	7	88	13	449	29	530	30	214	23	42	6	0	0	0	0	0	0
	FEB	82	67	43	49	0	0	0	0	0	0	0	0	14	7	106	15	566	28	230	25	0	0	0	0	0	0
	MAR	79	67	34	43	0	0	0	0	0	0	0	0	129	20	255	29	489	31	207	27	0	0	0	0	0	0
	APR	82	68	37	47	0	0	0	0	0	0	0	0	66	10	150	21	570	30	242	26	0	0	0	0	0	0
	MAY	97	81	47	57	0	0	0	0	0	0	0	0	0	0	4	1	740	31	586	31	21	4	0	0	0	0
	JUN	103	86	53	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	651	30	52	8	9	2	0	0
	JUL	* 103	92	56	67	0	0	0	0	0	0	0	0	0	0	0	0	735	31	729	31	157	23	16	7	0	0
	AUG	103	94	58	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	736	31	149	24	10	4	0	0
	SEPT.	104	89	60	65	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	82	14	4	1	0	0
	OCT.	96	75	48	56	0	0	0	0	0	0	0	0	0	0	12	4	732	31	500	31	12	3	0	0	0	0
	NOV	76	61	34	44	0	0	0	0	0	0	0	0	169	15	328	24	392	25	144	17	0	0	0	0	0	0
	DEC.	61	46	26	32	0	0	0	0	5	3	93	19	651	31	703	31	41	8	0	0	0	0	0	0	0	0
	ANNUAL	104	74	17	52	8	2	17	4	52	10	181	32	1478	112	2088	155	6663	329	4787	285	473	76	39	14	0	0
1964	JAN	* 63	53	27	34	0	0	0	0	2	1	34	10	391	27	569	30	115	21	6	2	0	0	0	0	0	0
	FEB	* 72	61	32	36	0	0	0	0	0	0	0	0	300	29	434	29	236	29	74	13	0	0	0	0	0	0
	MAR	83	64	28	40	0	0	0	0	1	1	6	3	220	25	368	30	376	31	149	20	0	0	0	0	0	0
	APR	93	72	36	47	0	0	0	0	0	0	0	0	63	14	158	21	562	30	331	27	6	2	0	0	0	0
	MAY	95	78	39	52	0	0	0	0	0	0	0	0	21	6	91	9	653	31	468	29	10	2	0	0	0	0
	JUN	108	89	51	62	0	0	0	0	0	0	0	0	0	0	0	0	720	30	661	30	83	12	33	7	0	0
	JUL.	107	99	59	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	743	31	229	28	56	13	0	0
	AUG	105	97	57	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	733	31	196	27	47	14	0	0
	SEPT.	100	87	53	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	658	30	53	12	0	0	0	0
	OCT	96	83	49	59	0	0	0	0	0	0	0	0	0	0	8	3	736	31	618	31	32	9	0	0	0	0
	NOV	74	60	33	43	0	0	0	0	0	0	0	0	195	18	320	24	400	30	101	14	0	0	0	0	0	0
	DEC.	73	58	25	42	0	0	0	0	3	1	12	2	252	22	396	28	348	29	98	12	0	0	0	0	0	0
	ANNUAL	108	75	25	51	0	0	0	0	6	3	52	15	1442	141	2344	174	6354	354	4640	270	609	92	136	34	0	0
1965	JAN	67	54	31	39	0	0	0	0	0	0	8	4	330	25	526	31	218	25	22	4	0	0	0	0	0	0
	FEB	72	61	29	39	0	0	0	0	0	0	4	2	274	25	398	28	274	28	92	17	0	0	0	0	0	0
	MAR	79	66	41	46	0	0	0	0	0	0	0	0	38	13	253	30	491	31	189	28	0	0	0	0	0	0
	APR	93	70	35	50	0	0	0	0	0	0	0	0	50	8	178	18	542	30	285	20	12	3	0	0	0	0
	MAY	* 96	80	41	57	0	0	0	0	0	0	0	0	6	3	19	3	663	29	554	29	26	5	0	0	0	0
	JUN	96	85	48	59	0	0	0	0	0	0	0	0	0	0	7	2	713	30	592	29	53	12	0	0	0	0
	JUL	103	95	59	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	735	31	181	26	14	4	0	0
	AUG	102	95	62	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	163	25	8	4	0	0
	SEPT	92	84	54	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	644	30	15	4	0	0	0	0
	OCT	93	81	44	56	0	0	0	0	0	0	0	0	1	1	13	3	731	31	538	31	8	3	0	0	0	0
	NOV	81	63	37	48	0	0	0	0	0	0	0	0	98	8	187	17	533	29	174	16	0	0	0	0	0	0
	DEC.	59	47	25	35	0	0	0	0	13	2	103	9	453	31	706	31	38	9	0	0	0	0	0	0	0	0
	ANNUAL	103	73	25	52	0	0	0	0	13	2	115	15	1250	114	2287	163	6411	334	4569	266	458	78	22	8	0	0
1966	JAN	62	53	29	36	0	0	0	0	0	0	25	6	428	29	601	31	143	20	6	2	0	0	0	0	0	0
	FEB	74	56	31	38	0	0	0	0	0	0	9	4	309	26	467	28	205	26	22	5	0	0	0	0	0	0
	MAR	85	69	30	44	0	0	0	0	0	0	8	1	125	18	249	27	495	30	241	27	0	0	0	0	0	0
	APR	94	80	44	52	0	0	0	0	0	0	0	0	3	2	36	10	684	30	446	29	9	2	0	0	0	0
	MAY	100	85	50	58	0	0	0	0	0	0	0	0	0	0	1	1	743	31	633	31	44	9	0	0	0	0
	JUN	107	88	50	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	671	30	124	15	22	6	0	0
	JUL.	108	95	58	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	742	31	164	20	31	7	0	0
	AUG.	107	99	53	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	734	31	246	27	90	17	0	0
	SEPT.	100	86	51	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	676	30	41	9	0	0	0	0
	OCT.	88	78	42	53	0	0	0	0	0	0	0	0	8	3	54	10	690	31	491	31	0	0	0	0	0	0
	NOV	82	65	35	47	0	0	0	0	0	0	0	0	62	6	185	20	535	30	174	22	0	0	0	0	0	0
	DEC	65	50	29	39	0	0	0	0	0	0	28	6	464	25	587	28	157	14	40	7	0	0	0	0	0	0
	ANNUAL	108	76	29	52	0	0	0	0	0	0	70	17	1399	109	2180	155	5580	334	4876	276	628	82	143	30	0	0
1967	JAN	65	55	25	35	0	0	0	0	17	5	98	15	417	29	530	31	214	25	29	7	0	0	0	0	0	0
	FEB	68	57	32	38	0	0	0	0	0	0	2	1	363	28	480	28	192	24	38	9	0	0	0	0	0	0
	MAR	73	64	32	43	0	0	0	0	0	0	0	0	156	24	301	30	443	31	160	22	0	0	0	0	0	0
	APR	64	57	34	40	0	0	0	0	0	0	0	0	222	30	429	30	291	29	31	9	0	0	0	0	0	0
	MAY	102	82	40	57	0	0	0	0	0	0	0	0	8	2	43	7	701	31	526	31	74	9	7	2	0	0
	JUN.	107	88	50	63	0	0	0	0	0	0	0	0	0	0	0	0	720	30	638	30	114	17	15	3	0	0
	JUL.	107	101	66	74	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	303	31	83	17	0	0
	AUG	108	102	65	74	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	306	31	100	25	0	0
	SEPT	98	91	61	67	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	81	17	0	0	0	0
	OCT	87	80	48	62	0	0	0	0	0	0	0	0	0	0	4	1	740	31	565	31	0	0	0	0	0	0
	NOV	81	66	39	50	0	0	0	0	0	0	0	0	26	6	114	11	606	30	241	20	0	0	0	0	0	0
	DEC.	61	51	25	35	0	0	0	0	9	2	70	10	457	30	629	30	115	13	7	4	0	0	0	0	0	0
	ANNUAL	108	75	25	53	0	0	0	0	26	7	170	26	1649	149	2530	168	5230	336	4883	255	878	105	205	47	0	0
1968	JAN.	67	53	29	36	0	0	0	0	0	0	34	7	441	29	594	31	150	19	26	5	0	0	0	0	0	0
	FEB	* 78		36		0	0	0	0	0	0	0	0	42	10	176	15	348	22	108	14	0	0	0	0	0	0
	MAR	85	67	39	47	0	0	0	0	0	0	0	0	55	15	204	26	540	31	207	21	0	0	0	0	0	0
	APR	89	75	41	50	0	0	0	0	0	0	0	0	2	2	96	19	624	30	390	23	0	0	0	0	0	0
	MAY	97	81	48	56	0	0	0	0	0	0	0	0	0	0	16	6	728	31	488	31	19	4	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)
Station D-55-110

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS. TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS
1963	JAN.																										
	FEB.																										
	MAR	• 77				0	0	0	0	0	0	0	0	101	14	189	20	291	20	112	16	0	0	0	0	0	0
	APR.	80	65	36	45	0	0	0	0	0	0	0	0	92	16	221	24	429	30	212	24	0	0	0	0	0	0
	MAY	94	78	47	56	0	0	0	0	0	0	0	0	0	0	23	6	721	31	583	31	8	3	0	0	0	0
	JUN.	98	85	54	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	651	30	44	6	0	0	0	0
	JUL.	101	92	56	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	733	31	142	24	0	0	0	0
	AUG.	101	92	55	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	738	31	123	22	1	1	0	0
	SEPT	100	90	55	65	0	0	0	0	0	0	0	0	0	0	0	0	720	30	628	30	84	15	2	1	0	0
	OCT.	93	72	47	54	0	0	0	0	0	0	0	0	0	0	21	7	723	31	456	31	8	3	0	0	0	0
	NOV.	• 74	61	36	44	0	0	0	0	0	0	0	0	95	10	309	26	362	25	134	16	0	0	0	0	0	0
	DEC.	• 63	48	28	32	0	0	0	0	4	2	70	13	489	28	566	28	67	9	4	2	0	0	0	0	0	0
	ANNUAL	101																									
1964	JAN.	62	52	28	36	0	0	0	0	8	3	29	4	361	31	619	31	125	21	18	2	0	0	0	0	0	0
	FEB.	70	59	30	37	0	0	0	0	0	0	4	2	337	29	469	29	227	28	69	14	0	0	0	0	0	0
	MAR	82	63	31	41	0	0	0	0	0	0	2	1	212	22	369	28	375	28	141	18	0	0	0	0	0	0
	APR	91	71	36	47	0	0	0	0	0	0	0	0	104	10	164	19	556	30	310	26	1	1	0	0	0	0
	MAY	93	76	40	52	0	0	0	0	0	0	0	0	36	7	103	10	641	31	453	28	5	2	0	0	0	0
	JUN.	107	87	50	62	0	0	0	0	0	0	0	0	0	0	4	1	716	30	642	30	67	9	20	3	0	0
	JUL.	106	98	57	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	739	31	214	28	39	11	0	0
	AUG.	101	95	57	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	732	31	172	27	4	3	0	0
	SEPT	95	86	51	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	632	30	35	10	0	0	0	0
	OCT.	94	81	50	58	0	0	0	0	0	0	0	0	0	0	0	0	744	31	606	31	9	8	0	0	0	0
	NOV	74	59	32	42	0	0	0	0	0	0	1	1	214	17	374	27	346	27	85	12	0	0	0	0	0	0
	DEC.	72	57	28	42	0	0	0	0	2	1	6	2	292	22	413	24	331	22	89	10	0	0	0	0	0	0
	ANNUAL	107	74	28	51	0	0	0	0	10	4	42	10	1556	138	2515	169	6269	340	4516	263	503	85	63	17	0	0
1965	JAN.	68	53	30	38	0	0	0	0	0	0	25	6	406	28	584	30	160	19	17	3	0	0	0	0	0	0
	FEB.	• 73	60	27	38	0	0	0	0	1	1	4	1	268	25	384	28	277	26	81	14	0	0	0	0	0	0
	MAR	77	64	39	45	0	0	0	0	0	0	0	0	36	13	280	30	464	31	153	26	0	0	0	0	0	0
	APR	93	68	39	49	0	0	0	0	0	0	0	0	102	11	241	19	479	28	270	17	4	3	0	0	0	0
	MAY	96	80	40	56	0	0	0	0	0	0	0	0	13	3	44	7	700	31	566	31	18	5	0	0	0	0
	JUN	96	85	49	59	0	0	0	0	0	0	0	0	0	0	8	3	712	30	618	30	36	11	0	0	0	0
	JUL.	103	95	58	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	739	31	171	25	11	5	0	0
	AUG	101	95	62	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	160	25	5	3	0	0
	SEPT	91	82	53	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	632	30	10	3	0	0	0	0
	OCT.	94	80	44	56	0	0	0	0	0	0	0	0	2	1	13	3	731	31	595	31	13	5	0	0	0	0
	NOV	80	63	37	48	0	0	0	0	0	0	0	0	87	7	193	18	527	29	169	19	0	0	0	0	0	0
	DEC.	61	47	22	34	0	0	2	1	10	2	89	10	582	31	693	31	51	6	1	1	0	0	0	0	0	0
	ANNUAL	103	72	22	52	0	0	2	1	11	3	118	17	1496	119	2440	169	6309	325	4585	264	412	77	16	8	0	0
1966	JAN.	61	52	29	36	0	0	0	0	0	0	26	8	457	31	614	31	130	17	3	2	0	0	0	0	0	0
	FEB.	72	55	31	37	0	0	0	0	0	0	7	3	333	25	488	28	184	22	21	5	0	0	0	0	0	0
	MAR	85	67	29	42	0	0	0	0	0	0	12	3	146	20	272	28	472	31	206	25	0	0	0	0	0	0
	APR.	91	79	43	51	0	0	0	0	0	0	0	0	13	6	67	15	653	30	436	30	5	2	0	0	0	0
	MAY	98	84	47	57	0	0	0	0	0	0	0	0	0	0	13	4	731	31	609	31	42	8	0	0	0	0
	JUN.	106	90	46	62	0	0	0	0	0	0	0	0	0	0	5	2	715	30	655	30	113	15	27	4	0	0
	JUL.	105	94	57	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	720	31	160	22	31	7	0	0
	AUG.	107	101	51	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	722	31	220	19	86	17	0	0
	SEPT.	100	86	50	61	0	0	0	0	0	0	0	0	0	0	1	1	719	30	650	30	43	7	0	0	0	0
	OCT.	89	78	42	52	0	0	0	0	0	0	0	0	15	5	65	9	679	31	474	31	6	1	0	0	0	0
	NOV	65	65	33	46	0	0	0	0	0	0	0	0	98	12	189	20	531	30	196	23	0	0	0	0	0	0
	DEC.	• 64	49	29	38	0	0	0	0	0	0	20	4	470	27	564	29	116	11	13	5	0	0	0	0	0	0
	ANNUAL	107	75	29	52	0	0	0	0	0	0	65	18	1532	126	2278	167	6418	325	4705	274	589	74	144	28	0	0
1967	JAN.	63	55	26	36	0	0	0	0	10	6	69	11	391	28	542	31	202	24	19	8	0	0	0	0	0	0
	FEB.	• 70	54	32	36	0	0	0	0	0	0	2	2	319	26	452	28	170	21	46	7	0	0	0	0	0	0
	MAR.	75	64	32	42	0	0	0	0	0	0	2	1	148	23	301	30	443	31	167	25	0	0	0	0	0	0
	APR.	• 66	58	34	40	0	0	0	0	0	0	0	0	223	29	427	30	261	24	37	9	0	0	0	0	0	0
	MAY	• 102		40		0	0	0	0	0	0	0	0	6	2	22	5	561	25	447	25	57	8	5	2	0	0
	JUN.	106	87	47	61	0	0	0	0	0	0	0	0	0	0	11	4	709	30	608	30	96	16	9	2	0	0
	JUL.	105	100	67	74	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	267	31	77	15	0	0
	AUG.	• 107	101	66	75	0	0	0	0	0	0	0	0	0	0	0	0	700	30	700	30	261	27	82	19	0	0
	SEPT	97	89	65	68	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	76	17	0	0	0	0
	OCT.	86	79	48	56	0	0	0	0	0	0	0	0	0	0	5	3	739	31	593	31	0	0	0	0	0	0
	NOV.	82	67	37	50	0	0	0	0	0	0	0	0	39	7	153	13	567	28	243	15	0	0	0	0	0	0
	DEC.	64	53	25	35	0	0	0	0	12	3	60	8	343	31	605	31	139	18	17	6	0	0	0	0	0	0
	ANNUAL	107	74	25	53	0	0	0	0	22	9	133	22	1469	146	2518	175	5955	323	4341	247	757	99	173	38	0	0
1968	JAN.	70	54	26	38	0	0	0	0	3	2	74	8	419	28	533	31	211	22	34	8	0	0	0	0	0	0
	FEB.	75	63	36	47	0	0	0	0	0	0	0	0	49	10	179	17	527	29	129	18	0	0	0	0	0	0
	MAR.	85	67	39	47	0	0	0	0	0	0	0	0	10	5	163	23	469	31	208	20	0	0	0	0	0	0
	APR	88	75	40	51	0	0	0	0	0	0	0	0	6	3	81	19	639	30	452	29	0	0	0	0	0	0
	MAY	95	81	48	57	0	0	0	0	0	0	0	0	0	0	22	6	722	31	584	31	14	4	0	0	0	0

• Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)

Station E-25-040

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS. TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS
1963	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN																										
	JUL																										
	AUG																										
	SEPT.	106	92	55	63	0	0	0	0	0	0	0	0	0	0	0	0	720	30	700	30	114	19	19	6	0	0
	OCT	96	76	44	53	0	0	0	0	0	0	0	0	6	2	34	8	710	31	455	31	18	3	0	0	0	0
	NOV	76	61	31	42	0	0	0	0	0	0	2	1	198	21	339	25	381	26	132	17	0	0	0	0	0	0
	DEC.	56	44	24	32	0	0	2	1	20	5	69	13	676	31	719	31	25	5	0	0	0	0	0	0	0	0
	ANNUAL																										
1964	JAN	64	53	24	32	0	0	1	1	21	9	83	18	474	31	621	31	123	21	7	4	0	0	0	0	0	0
	FEB.	73	61	24	33	0	0	1	1	4	1	31	12	344	29	449	29	247	29	78	14	0	0	0	0	0	0
	MAR	87	65	27	38	0	0	0	0	1	1	17	5	241	28	378	31	366	30	160	21	0	0	0	0	0	0
	APR	94	73	36	46	0	0	0	0	0	0	0	0	76	16	179	25	541	30	311	27	7	2	0	0	0	0
	MAY	97	79	38	51	0	0	0	0	0	0	0	0	26	7	76	10	668	31	560	30	14	3	0	0	0	0
	JUN	109	90	50	60	0	0	0	0	0	0	0	0	0	0	1	1	719	30	646	30	96	13	29	6	2	1
	JUL.	109	99	56	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	736	31	242	30	59	16	0	0
	AUG	106	97	56	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	717	31	204	25	53	14	0	0
	SEPT	102	87	49	57	0	0	0	0	0	0	0	0	0	0	2	1	718	30	607	30	58	11	2	1	0	0
	OCT	96	83	47	56	0	0	0	0	0	0	0	0	0	0	12	3	732	31	549	31	39	10	0	0	0	0
	NOV	73	60	28	41	0	0	0	0	1	1	21	6	241	21	351	28	369	29	100	14	0	0	0	0	0	0
	DEC.	* 72		29		0	0	0	0	0	0	12	4	216	18	356	22	219	19	65	7	0	0	0	0	0	0
	ANNUAL	109	76	24	49	0	0	2	2	27	12	164	45	1618	150	2425	181	6190	342	4536	270	660	94	143	37	2	1
1965	JAN	* 65	52	28	38	0	0	0	0	3	1	34	7	324	22	493	28	165	18	19	4	0	0	0	0	0	0
	FEB	73	61	28	37	0	0	0	0	3	2	22	5	310	27	415	28	257	25	95	16	0	0	0	0	0	0
	MAR	80	67	36	45	0	0	0	0	0	0	0	0	49	13	207	29	537	31	213	28	0	0	0	0	0	0
	APR	96	71	37	50	0	0	0	0	0	0	0	0	48	8	152	17	568	30	315	22	12	3	0	0	0	0
	MAY	100	82	41	54	0	0	0	0	0	0	0	0	6	3	25	5	719	31	548	31	36	9	0	0	0	0
	JUN.	100	87	47	58	0	0	0	0	0	0	0	0	0	0	2	1	718	30	572	30	60	12	1	1	0	0
	JUL.	107	94	59	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	736	31	209	28	61	15	0	0
	AUG	106	98	61	68	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	212	30	56	20	0	0
	SEPT	97	86	47	57	0	0	0	0	0	0	0	0	0	0	7	2	713	30	597	30	35	11	0	0	0	0
	OCT	97	84	42	52	0	0	0	0	0	0	0	0	7	2	35	9	709	31	492	31	21	6	0	0	0	0
	NOV.	82	65	32	47	0	0	0	0	0	0	0	0	93	11	190	18	530	28	178	21	0	0	0	0	0	0
	DEC.	* 60		25		0	0	0	0	18	4	61	9	490	26	590	26	35	6	0	0	0	0	0	0	0	0
	ANNUAL	107	78	25	53	0	0	0	0	24	7	117	21	1327	112	2116	163	6439	322	4509	275	585	99	118	36	0	0
1966	JAN.	64	54	25	33	0	0	0	0	13	7	60	17	446	30	606	31	138	23	8	3	0	0	0	0	0	0
	FEB	77	57	26	34	0	0	0	0	12	5	54	12	318	27	460	28	212	26	35	9	0	0	0	0	0	0
	MAR	87	70	24	40	0	0	0	0	10	2	30	6	166	19	295	30	449	31	245	27	0	0	0	0	0	0
	APR	95	82	38	50	0	0	0	0	0	0	0	0	18	5	64	15	656	30	457	30	15	3	0	0	0	0
	MAY	100	87	46	57	0	0	0	0	0	0	0	0	0	0	10	3	734	31	604	31	57	9	0	0	0	0
	JUN.	110	93	43	61	0	0	0	0	0	0	0	0	2	1	6	2	714	30	665	30	216	19	46	9	0	0
	JUL.	109	98	53	64	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	206	28	65	14	0	0
	AUG	111	101	51	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	729	31	275	27	130	21	3	4
	SEPT.	104	89	45	59	0	0	0	0	0	0	0	0	1	1	5	2	715	30	649	30	64	11	12	3	0	0
	OCT	93	81	40	49	0	0	0	0	0	0	0	0	38	10	84	15	660	31	470	31	4	2	0	0	0	0
	NOV	87	68	32	45	0	0	0	0	0	0	1	1	98	12	192	26	528	30	226	23	0	0	0	0	0	0
	DEC.	68	51	25	39	0	0	0	0	8	3	40	5	439	28	590	28	154	11	28	5	0	0	0	0	0	0
	ANNUAL	111	78	24	50	0	0	0	0	43	17	185	41	1526	133	2312	180	6448	335	4860	281	837	99	253	47	3	4
1967	JAN.	* 62	53	24	32	0	0	0	0	5	3	40	9	333	26	436	27	163	22	24	9	0	0	0	0	0	0
	FEB.	* 75	57	24	36	0	0	2	1	6	1	16	5	352	28	447	28	159	20	39	8	0	0	0	0	0	0
	MAR	74	66	32	42	0	0	0	0	0	0	0	0	134	22	268	29	476	31	196	26	0	0	0	0	0	0
	APR	69	61	33	41	0	0	0	0	0	0	0	0	149	27	342	30	378	30	95	19	0	0	0	0	0	0
	MAY	* 105	84	42	53	0	0	0	0	0	0	0	0	13	5	39	10	684	31	525	31	80	11	14	3	0	0
	JUN.	109	90	47	61	0	0	0	0	0	0	0	0	0	0	4	2	716	30	618	30	123	15	22	4	0	0
	JUL.	110	104	59	72	0	0	0	0	0	0	0	0	0	0	0	0	744	31	742	31	337	31	135	24	0	0
	AUG	112	105	65	72	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	323	31	160	29	1	1
	SEPT	100	92	60	66	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	114	20	0	0	0	0
	OCT	88	82	44	50	0	0	0	0	0	0	0	0	6	3	51	14	693	31	466	31	0	0	0	0	0	0
	NOV.	84	67	34	46	0	0	0	0	0	0	0	0	48	10	184	22	536	30	216	20	0	0	0	0	0	0
	DEC.	63	51	19	31	6	1	18	4	56	9	149	21	545	31	648	31	96	16	8	2	0	0	0	0	0	0
	ANNUAL	112	78	19	51	6	1	20	5	69	13	201	35	1580	152	2419	193	6129	333	4393	268	977	108	331	60	1	1
1968	JAN.	68	53	24	32	0	0	1	2	18	5	103	19	493	31	602	31	142	20	20	5	0	0	0	0	0	0
	FEB.	76	64	31	45	0	0	0	0	0	0	2	1	88	12	227	21	469	29	129	18	0	0	0	0	0	0
	MAR.	84	68	36	42	0	0	0	0	0	0	0	0	129	24	298	29	446	31	208	26	0	0	0	0	0	0
	APR.	89	75	36	46	0	0	0	0	0	0	0	0	39	13	144	25	576	30	360	29	0	0	0	0	0	0
	MAY	99	82	42	53	0	0	0	0	0	0	0	0	4	2	48	12	696	31	519	31	26	3	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)
Station E-40-070

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤40		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS.	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN																										
	JUL																										
	AUG.																										
	SEPT	106	90	57	64	0	0	0	0	0	0	0	0	0	0	0	0	720	30	695	30	98	16	15	5	0	0
	OCT	97	76	41	54	0	0	0	0	0	0	0	0	5	1	22	6	722	31	475	31	18	3	0	0	0	0
	NOV	77	61	32	42	0	0	0	0	0	0	1	1	224	22	345	26	375	29	144	17	0	0	0	0	0	0
	DEC.	60	47	20	31	1	1	4	1	17	5	119	20	630	31	696	31	48	9	0	0	0	0	0	0	0	0
	ANNUAL																										
1964	JAN	63	54	26	33	0	0	0	0	15	6	82	14	455	30	597	31	147	23	15	4	0	0	0	0	0	0
	FEB	72	62	29	34	0	0	0	0	0	0	17	6	349	29	448	29	248	28	87	17	0	0	0	0	0	0
	MAR	86	65	28	38	0	0	0	0	0	0	5	2	242	27	366	29	378	30	156	21	0	0	0	0	0	0
	APR	94	73	35	45	0	0	0	0	0	0	0	0	82	16	197	25	523	30	312	28	6	2	0	0	0	0
	MAY	96	78	39	51	0	0	0	0	0	0	0	0	35	8	105	14	639	31	442	31	12	2	0	0	0	0
	JUN	110	89	49	60	0	0	0	0	0	0	0	0	0	0	4	2	716	30	632	30	86	13	25	4	0	0
	JUL.	108	99	53	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	734	31	234	30	55	16	0	0
	AUG	106	97	54	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	709	31	194	25	48	13	0	0
	SEPT.	99	88	49	57	0	0	0	0	0	0	0	0	0	0	1	1	719	30	596	30	57	11	0	0	0	0
	OCT	95	82	45	55	0	0	0	0	0	0	0	0	0	0	35	6	709	31	515	31	33	10	0	0	0	0
	NOV	73	59	27	39	0	0	0	0	4	2	16	6	228	22	412	28	308	28	82	11	0	0	0	0	0	0
	DEC	72	57	23	39	0	0	2	1	10	3	32	7	282	23	452	28	292	24	87	10	0	0	0	0	0	0
	ANNUAL	110	75	23	49	0	0	2	1	29	11	152	35	1673	155	2617	193	6167	347	4367	275	622	93	128	33	0	0
1965	JAN	70	53	29	38	0	0	0	0	0	0	50	8	365	25	591	31	153	19	14	4	0	0	0	0	0	0
	FEB	76	61	27	36	0	0	0	0	2	1	28	4	331	27	426	28	246	25	98	16	0	0	0	0	0	0
	MAR	78	66	34	44	0	0	0	0	0	0	0	0	78	17	291	30	453	31	187	28	0	0	0	0	0	0
	APR	95	69	36	49	0	0	0	0	0	0	0	0	59	8	232	18	488	30	289	19	11	3	0	0	0	0
	MAY	98	80	40	53	0	0	0	0	0	0	0	0	13	4	51	11	693	31	505	31	26	5	0	0	0	0
	JUN	98	85	47	55	0	0	0	0	0	0	0	0	0	0	12	5	708	30	518	29	35	9	0	0	0	0
	JUL.	106	96	55	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	728	31	190	26	21	6	0	0
	AUG	105	96	59	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	736	31	191	27	23	8	0	0
	SEPT	94	82	48	54	0	0	0	0	0	0	0	0	0	0	6	4	714	30	564	30	24	6	0	0	0	0
	OCT.	97	83	44	52	0	0	0	0	0	0	0	0	4	2	29	5	715	31	468	31	20	6	0	0	0	0
	NOV.	83	64	32	47	0	0	0	0	0	0	0	0	76	9	207	21	513	29	164	19	0	0	0	0	0	0
	DEC.	63	48	24	33	0	0	2	1	67	8	127	17	556	30	689	31	55	9	3	2	0	0	0	0	0	0
	ANNUAL	106	74	24	49	0	0	2	1	69	9	205	29	1482	122	2534	184	6226	327	4274	271	497	82	44	14	0	0
1966	JAN	62	53	26	34	0	0	0	0	21	5	124	16	437	31	594	31	150	20	11	5	0	0	0	0	0	0
	FEB	74	57	27	35	0	0	0	0	9	2	59	11	293	26	450	28	222	27	25	7	0	0	0	0	0	0
	MAR	88	70	26	40	0	0	0	0	10	2	17	2	155	24	293	30	451	30	242	27	0	0	0	0	0	0
	APR	94	82	38	50	0	0	0	0	0	0	0	0	14	5	58	12	662	30	437	30	12	3	0	0	0	0
	MAY	98	85	45	54	0	0	0	0	0	0	0	0	0	0	18	6	726	31	509	31	55	10	0	0	0	0
	JUN.	109	92	44	59	0	0	0	0	0	0	0	0	1	1	8	3	712	30	644	30	132	16	36	9	0	0
	JUL.	107	97	53	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	723	31	199	27	63	15	0	0
	AUG.	111	101	55	69	0	0	0	0	0	0	0	0	0	0	0	0	744	31	726	31	288	27	134	21	3	1
	SEPT.	103	89	51	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	641	30	70	13	10	3	0	0
	OCT.	93	81	40	50	0	0	0	0	0	0	0	0	29	7	83	13	661	31	458	31	8	2	0	0	0	0
	NOV	89	67	34	45	0	0	0	0	0	0	0	0	110	13	195	24	525	30	198	22	0	0	0	0	0	0
	DEC.	65	50	29	39	0	0	0	0	0	0	34	6	429	27	607	29	137	12	32	6	0	0	0	0	0	0
	ANNUAL	111	77	26	50	0	0	0	0	40	9	234	35	1468	134	2306	176	6454	333	4646	281	764	98	243	48	3	1
1967	JAN.	63	56	24	35	0	0	4	2	25	6	94	11	376	27	508	31	236	25	22	6	0	0	0	0	0	0
	FEB	75	57	26	35	0	0	0	0	1	1	19	5	403	28	483	28	189	23	35	9	0	0	0	0	0	0
	MAR	74	64	30	40	0	0	0	0	0	0	5	2	182	26	326	29	418	31	156	24	0	0	0	0	0	0
	APR	67	59	33	38	0	0	0	0	0	0	0	0	219	29	407	30	313	30	53	12	0	0	0	0	0	0
	MAY	103	83	40	53	0	0	0	0	0	0	0	0	18	5	67	13	677	31	500	31	79	11	11	3	0	0
	JUN.	106	87	47	58	0	0	0	0	0	0	0	0	0	0	17	4	703	30	560	30	111	15	15	4	0	0
	JUL.	108	102	61	71	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	306	31	86	19	0	0
	AUG	108	104	65	71	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	297	31	119	27	0	0
	SEPT	100	91	59	65	0	0	0	0	0	0	0	0	0	0	0	0	720	30	716	30	89	17	0	0	0	0
	OCT	89	81	44	51	0	0	0	0	0	0	0	0	0	0	32	13	712	31	456	31	0	0	0	0	0	0
	NOV	83	67	36	47	0	0	0	0	0	0	0	0	59	9	196	21	524	28	225	21	0	0	0	0	0	0
	DEC.	* 63		19		0	0	0	0	0	0	64	11	373	25	473	25	113	16	12	6	0	0	0	0	0	0
	ANNUAL	108	76	19	50	0	0	4	2	26	7	182	29	1630	149	2509	194	6093	337	4223	262	882	105	231	53	0	0
1968	JAN	69	54	25	33	0	0	0	0	13	5	74	12	477	30	557	31	187	20	33	9	0	0	0	0	0	0
	FEB.	71	63	34	45	0	0	0	0	0	0	0	0	83	14	206	18	490	29	133	17	0	0	0	0	0	0
	MAR.	86	68	35	43	0	0	0	0	0	0	0	0	135	24	252	30	492	31	219	25	0	0	0	0	0	0
	APR	92	73	38	45	0	0	0	0	0	0	0	0	48	14	160	24	560	30	347	29	9	3	0	0	0	0
	MAY	98	82	44	53	0	0	0	0	0	0	0	0	7	2	59	12	685	31	510	31	22	5	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)
Station E-70-110

YEAR	MONTH	RECORD IN DEGREES F				NO HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN.																										
	FEB.																										
	MAR																										
	APR.																										
	MAY																										
	JUN.																										
	JUL.																										
	AUG.																										
	SEPT	106	90	57	63	0	0	0	0	0	0	0	0	0	0	0	0	720	30	670	30	106	17	18	5	0	0
	OCT.	97	75	44	54	0	0	0	0	0	0	0	0	0	0	20	6	724	31	424	31	18	3	0	0	0	0
	NOV.	76	61	33	43	0	0	0	0	0	0	0	0	182	17	320	27	400	28	128	16	0	0	0	0	0	0
	DEC.	65	51	25	32	0	0	0	0	18	4	88	15	592	31	667	31	77	13	17	5	0	0	0	0	0	0
	ANNUAL																										
1964	JAN.	66	54	28	36	0	0	0	0	1	1	31	10	437	30	599	31	145	23	15	5	0	0	0	0	0	0
	FEB.	70	61	31	37	0	0	0	0	0	0	4	3	315	29	454	29	242	27	78	14	0	0	0	0	0	0
	MAR	83	62	31	40	0	0	0	0	0	0	3	2	225	25	391	29	353	29	154	19	0	0	0	0	0	0
	APR	93	71	36	45	0	0	0	0	0	0	0	0	92	14	241	25	479	30	260	26	4	1	0	0	0	0
	MAY	93	76	37	48	0	0	0	0	0	0	0	0	53	10	166	21	578	31	343	27	7	2	0	0	0	0
	JUN.	108	88	47	58	0	0	0	0	0	0	0	0	0	0	15	3	705	30	570	30	68	9	22	3	0	0
	JUL.	107	98	48	64	0	0	0	0	0	0	0	0	0	0	3	1	741	31	716	31	204	29	30	8	0	0
	AUG.	104	95	52	63	0	0	0	0	0	0	0	0	0	0	0	0	744	31	674	31	174	26	30	10	0	0
	SEPT	101	86	48	56	0	0	0	0	0	0	0	0	0	0	14	4	706	30	553	30	45	10	2	1	0	0
	OCT	94	82	47	57	0	0	0	0	0	0	0	0	0	0	11	3	733	31	548	31	33	9	0	0	0	0
	NOV	74	59	32	43	0	0	0	0	0	0	3	1	201	21	363	26	357	26	70	13	0	0	0	0	0	0
	DEC.	70	56	29	42	0	0	0	0	0	0	8	2	262	23	415	24	329	25	78	10	0	0	0	0	0	0
	ANNUAL	108	74	28	49	0	0	0	0	1	1	49	18	1585	152	2672	196	6112	344	4059	267	535	86	84	22	0	0
1965	JAN.	64	53	29	39	0	0	0	0	0	0	16	3	347	23	548	31	196	20	8	2	0	0	0	0	0	0
	FEB.	76	62	30	38	0	0	0	0	0	0	9	5	294	27	390	28	282	27	95	15	0	0	0	0	0	0
	MAR	76	65	37	43	0	0	0	0	0	0	0	0	115	21	369	31	375	31	148	25	0	0	0	0	0	0
	APR	92	68	36	48	0	0	0	0	0	0	0	0	79	8	271	20	449	29	261	18	5	3	0	0	0	0
	MAY	96	79	39	50	0	0	0	0	0	0	0	0	31	6	108	17	636	31	463	31	19	5	0	0	0	0
	JUN.	96	84	47	52	0	0	0	0	0	0	0	0	0	0	45	12	675	30	458	30	29	6	0	0	0	0
	JUL.	104	96	52	63	0	0	0	0	0	0	0	0	0	0	0	0	744	31	703	31	168	25	24	6	0	0
	AUG	105	97	54	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	710	31	203	27	32	11	0	0
	SEPT	96	84	51	56	0	0	0	0	0	0	0	0	0	0	0	0	720	30	526	30	34	10	0	0	0	0
	OCT.	95	84	44	55	0	0	0	0	0	0	0	0	2	1	18	2	726	31	531	31	20	5	0	0	0	0
	NOV.	* 80		35		0	0	0	0	0	0	0	0	103	10	182	17	426	26	121	14	0	0	0	0	0	0
	DEC.	* 61		22		0	0	0	0	12	2	38	6	426	27	523	26	74	12	0	0	0	0	0	0	0	0
	ANNUAL	105	74	22	50	0	0	0	0	12	2	63	14	1397	123	2454	184	5047	331	4024	258	478	81	56	17	0	0
1966	JAN.	* 61		28		0	0	0	0	10	4	55	8	390	24	499	25	97	15	5	2	0	0	0	0	0	0
	FEB.	* 73		28		0	0	0	0	0	0	2	1	215	19	294	21	169	20	21	4	0	0	0	0	0	0
	MAR	86	68	28	42	0	0	0	0	1	1	14	2	133	19	284	30	460	29	217	27	0	0	0	0	0	0
	APR	93	79	43	49	0	0	0	0	0	0	0	0	18	6	82	16	638	29	407	29	7	2	0	0	0	0
	MAY	97	82	45	52	0	0	0	0	0	0	0	0	1	1	41	8	703	31	459	31	31	7	0	0	0	0
	JUN.	108	90	46	58	0	0	0	0	0	0	0	0	0	0	12	3	708	30	592	30	107	13	21	5	0	0
	JUL.	106	95	51	62	0	0	0	0	0	0	0	0	0	0	0	0	744	31	708	31	150	21	36	8	0	0
	AUG.	108	98	51	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	713	31	223	27	77	16	0	0
	SEPT.	100	86	48	58	0	0	0	0	0	0	0	0	0	0	4	2	716	30	600	30	42	8	2	1	0	0
	OCT.	90	78	42	52	0	0	0	0	0	0	0	0	10	5	56	11	688	31	424	31	0	0	0	0	0	0
	NOV	* 87	65	36	46	0	0	0	0	0	0	0	0	70	10	187	21	527	30	162	18	0	0	0	0	0	0
	DEC.	63	51	30	40	0	0	0	0	0	0	12	3	410	25	586	29	158	13	29	5	0	0	0	0	0	0
	ANNUAL	108	76	28	51	0	0	0	0	11	5	83	14	1247	109	2045	166	5352	320	4337	269	560	78	136	30	0	0
1967	JAN.	65	56	27	37	0	0	0	0	3	3	40	11	356	26	495	29	249	25	25	9	0	0	0	0	0	0
	FEB.	72	58	32	40	0	0	0	0	0	0	0	0	223	21	426	28	246	27	46	8	0	0	0	0	0	0
	MAR	* 71	62	34		0	0	0	0	0	0	0	0	129	19	289	27	381	31	136	22	0	0	0	0	0	0
	APR.	64	58	33	39	0	0	0	0	0	0	0	0	241	30	459	30	261	28	30	8	0	0	0	0	0	0
	MAY	102	80	39	51	0	0	0	0	0	0	0	0	19	6	104	20	640	31	444	31	57	8	5	3	0	0
	JUN.	* 106	86	46	54	0	0	0	0	0	0	0	0	0	0	49	9	605	28	495	28	86	13	12	2	0	0
	JUL	* 106		60		0	0	0	0	0	0	0	0	0	0	0	0	576	25	576	25	203	23	60	14	0	0
	AUG.	106	102	63	70	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	283	31	103	23	0	0
	SEPT	* 96	90	58	64	0	0	0	0	0	0	0	0	0	0	0	0	707	30	702	30	76	16	0	0	0	0
	OCT.	87	80	44	52	0	0	0	0	0	0	0	0	2	2	24	9	720	31	482	31	0	0	0	0	0	0
	NOV	* 86		37		0	0	0	0	0	0	0	0	7	2	50	13	454	22	203	18	0	0	0	0	0	0
	DEC.	* 61		20		0	0	0	0	1	1	21	6	263	20	359	20	68	12	7	2	0	0	0	0	0	0
	ANNUAL	106		20		0	0	0	0	4	4	61	17	1260	126	2255	185	5651	321	3890	243	705	91	180	42	0	0
1968	JAN	72	54	25	34	0	0	0	0	13	5	82	10	456	30	588	31	156	20	38	11	0	0	0	0	0	0
	FEB	74	63	36	47	0	0	0	0	0	0	0	0	61	10	224	19	472	29	122	17	0	0	0	0	0	0
	MAR.	64	67	37	43	0	0	0	0	0	0	0	0	116	21	275	29	469	31	176	21	0	0	0	0	0	0
	APR	88	73	38	47	0	0	0	0	0	0	0	0	64	13	179	23	541	30	318	29	0	0	0	0	0	0
	MAY	97	80	40	51	0	0	0	0	0	0	0	0	14	4	111	16	633	31	444	31	17	4	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)

Station F-15-028

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN																										
	JUL.																										
	AUG																										
	SEPT																										
	OCT																										
	NOV.																										
	DEC.																										
	ANNUAL																										
1964	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN																										
	JUL.																										
	AUG																										
	SEPT																										
	OCT.																										
	NOV																										
	DEC																										
	ANNUAL																										
1965	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN																										
	JUL.																										
	AUG																										
	SEPT																										
	OCT.																										
	NOV																										
	DEC.																										
	ANNUAL																										
1966	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN.																										
	JUL																										
	AUG																										
	SEPT.																										
	OCT																										
	NOV																										
	DEC.																										
	ANNUAL																										
1967	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN																										
	JUL																										
	AUG	112	105	65	73	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	358	31	148	27	5	2
	SEPT.	103	95	62	67	0	0	0	0	0	0	0	0	0	0	0	0	720	30	720	30	140	26	11	4	0	0
	OCT.	92	83	48	53	0	0	0	0	0	0	0	0	0	0	14	8	730	31	545	31	8	5	0	0	0	0
	NOV	* 86	68	35	48	0	0	0	0	0	0	0	0	36	9	148	18	548	29	224	22	0	0	0	0	0	0
	DEC.	64	52	21	32	0	0	6	2	23	7	112	20	503	30	628	31	116	20	11	4	0	0	0	0	0	0
	ANNUAL																										
1968	JAN	70	54	23	33	0	0	3	1	13	6	70	15	445	28	574	31	170	22	25	7	0	0	0	0	0	0
	FEB	75	63	36	46	0	0	0	0	0	0	0	0	51	13	187	20	509	29	148	20	0	0	0	0	0	0
	MAR	84	69	39	45	0	0	0	0	0	0	0	0	62	17	181	27	563	31	256	29	0	0	0	0	0	0
	APR	92	76	38	47	0	0	0	0	0	0	0	0	31	12	94	22	626	30	388	29	4	2	0	0	0	0
	MAY	99	83	39	54	0	0	0	0	0	0	0	0	4	3	26	9	718	31	568	31	31	8	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)

Station F-50-050

YEAR	MONTH	RECORD IN DEGREES F.				NO. HRS. TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS	HRS.	DAYS
1963	JAN.																										
	FEB.																										
	MAR																										
	APR																										
	MAY	* 98	82	33	50	0	0	0	0	0	0	0	0	27	6	47	8	634	29	460	29	21	4	0	0	0	0
	JUN	107	88	45	53	0	0	0	0	0	0	0	0	0	0	17	11	703	30	542	30	67	11	15	3	0	0
	JUL.	106	97	51	56	0	0	0	0	0	0	0	0	0	0	2	2	742	31	672	31	208	26	42	14	0	0
	AUG.	106	95	47	57	0	0	0	0	0	0	0	0	0	0	10	4	734	31	649	31	185	25	26	8	0	0
	SEPT	108	91	52	59	0	0	0	0	0	0	0	0	0	0	0	0	720	30	638	30	113	17	21	6	0	0
	OCT	98	78	35	50	0	0	0	0	0	0	0	0	24	5	80	18	664	31	430	31	16	3	0	0	0	0
	NOV.	77	62	28	39	0	0	0	0	1	1	19	6	241	24	373	27	347	27	126	16	0	0	0	0	0	0
	DEC.	62	49	20	31	0	0	13	3	41	10	101	17	616	31	692	31	52	9	0	0	0	0	0	0	0	0
	ANNUAL	108																									
1964	JAN	66	56	20	29	1	1	20	10	80	16	134	20	445	31	563	31	181	27	18	4	0	0	0	0	0	0
	FEB.	73	64	22	30	0	0	2	1	20	7	105	24	351	29	433	29	263	28	112	21	0	0	0	0	0	0
	MAR	87	66	20	33	1	1	5	1	20	5	59	14	274	29	385	31	359	30	178	22	0	0	0	0	0	0
	APR	95	74	30	41	0	0	0	0	0	0	2	1	114	20	218	29	502	30	301	28	7	2	0	0	0	0
	MAY	97	79	30	45	0	0	0	0	0	0	5	3	42	10	115	21	629	31	429	30	18	3	0	0	0	0
	JUN.	112	90	50	55	0	0	0	0	0	0	0	0	0	0	2	2	718	30	587	30	96	12	30	5	3	1
	JUL.	110	100	50	62	0	0	0	0	0	0	0	0	0	0	0	0	744	31	713	31	247	29	79	16	0	0
	AUG.	106	98	53	62	0	0	0	0	0	0	0	0	0	0	0	0	744	31	701	31	231	29	74	16	0	0
	SEPT.	101	90	46	52	0	0	0	0	0	0	0	0	0	0	24	9	696	30	523	30	78	14	2	1	0	0
	OCT	96	84	43	52	0	0	0	0	0	0	0	0	6	4	46	12	698	31	483	31	57	11	0	0	0	0
	NOV	75	61	28	41	0	0	0	0	5	3	29	5	210	21	331	26	389	31	101	15	0	0	0	0	0	0
	DEC.	* 74		24		0	0	0	0	2	1	13	4	112	10	191	15	128	11	24	6	0	0	0	0	0	0
	ANNUAL	112	76	20	45	2	2	27	12	127	32	347	66	1554	154	2308	205	6051	341	4170	218	734	100	185	38	3	1
1965	JAN	* 68	54	24	37	0	0	0	0	8	2	71	11	293	24	524	30	196	24	13	3	0	0	0	0	0	0
	FEB.	76	63	25	34	0	0	0	0	19	6	56	14	323	26	399	28	273	26	108	17	0	0	0	0	0	0
	MAR.	78	67	31	40	0	0	0	0	0	0	5	3	145	24	283	31	461	31	211	31	0	0	0	0	0	0
	APR.	97	71	33	46	0	0	0	0	0	0	0	0	43	10	161	19	559	30	265	21	16	3	0	0	0	0
	MAY	99	83	29	45	0	0	0	0	0	0	4	2	51	14	100	21	644	31	456	31	45	10	0	0	0	0
	JUN	100	88	40	53	0	0	0	0	0	0	0	0	11	4	30	8	690	30	567	30	65	12	0	0	0	0
	JUL.	106	98	50	60	0	0	0	0	0	0	0	0	0	0	1	1	743	31	701	31	224	29	44	10	0	0
	AUG	* 105	98	54	63	0	0	0	0	0	0	0	0	0	0	0	0	665	30	637	30	201	27	42	12	0	0
	SEPT	97	87	40	60	0	0	0	0	0	0	0	0	20	5	53	15	667	30	501	30	48	12	0	0	0	0
	OCT	97	64	33	45	0	0	0	0	0	0	0	0	62	17	173	27	571	31	373	31	22	6	0	0	0	0
	NOV.	82	63	31	42	0	0	0	0	0	0	0	0	194	22	288	23	432	30	133	16	0	0	0	0	0	0
	DEC.	62	48	22	32	0	0	11	3	72	10	123	15	580	29	688	31	56	11	1	1	0	0	0	0	0	0
	ANNUAL	106	75	22	46	0	0	11	3	99	18	259	45	1722	175	2700	232	5957	335	3966	272	621	99	86	22	0	0
1966	JAN.	65	54	22	30	0	0	27	7	107	13	155	20	454	30	597	31	143	23	21	6	0	0	0	0	0	0
	FEB.	76	57	23	32	0	0	3	2	41	9	104	10	333	27	468	28	204	19	49	9	0	0	0	0	0	0
	MAR.	88	69	21	37	0	0	6	2	18	3	31	6	223	29	338	31	406	31	263	27	0	0	0	0	0	0
	APR.	95	81	34	43	0	0	0	0	0	0	0	0	76	20	174	29	546	30	390	29	10	3	0	0	0	0
	MAY	99	85	42	51	0	0	0	0	0	0	0	0	9	4	47	14	697	31	524	31	50	9	0	0	0	0
	JUN.	107	92	44	55	0	0	0	0	0	0	0	0	1	1	16	8	704	30	610	30	110	14	20	3	0	0
	JUL.	106	96	46	59	0	0	0	0	0	0	0	0	0	0	3	2	741	31	692	31	195	24	53	10	0	0
	AUG.	106	100	49	63	0	0	0	0	0	0	0	0	0	0	2	2	742	31	720	31	275	27	116	20	0	0
	SEPT.	103	89	43	56	0	0	0	0	0	0	0	0	3	2	20	5	700	31	594	31	62	11	8	3	0	0
	OCT.	93	82	35	47	0	0	0	0	0	0	0	0	56	12	130	19	613	31	427	31	9	3	0	0	0	0
	NOV	87	67	29	41	0	0	0	0	0	0	14	4	130	17	251	27	468	30	186	23	0	0	0	0	0	0
	DEC.	66	51	25	38	0	0	0	0	21	5	52	6	434	27	598	29	144	13	22	5	0	0	0	0	0	0
	ANNUAL	108	77	21	46	0	0	36	11	187	30	356	46	1719	169	2644	225	6108	331	4457	284	711	91	197	36	0	0
1967	JAN.	63	56	23	33	0	0	2	1	51	10	113	14	410	28	516	31	228	25	15	7	0	0	0	0	0	0
	FEB.	73	58	25	35	0	0	0	0	8	1	26	8	353	28	480	28	192	24	38	9	0	0	0	0	0	0
	MAR	72	64	24	37	0	0	0	0	12	4	41	10	212	27	346	30	398	31	169	24	0	0	0	0	0	0
	APR.	68	60	29	36	0	0	0	0	0	0	25	9	234	28	411	24	309	29	67	14	0	0	0	0	0	0
	MAY	103	84	34	48	0	0	0	0	0	0	11	1	59	10	90	21	630	30	471	30	80	11	11	3	0	0
	JUN.	106	89	41	54	0	0	0	0	0	0	0	0	6	3	28	10	692	30	556	30	120	15	19	3	0	0
	JUL.	108	102	52	64	0	0	0	0	0	0	0	0	0	0	0	0	744	31	728	31	330	31	109	23	0	0
	AUG	111	105	55	63	0	0	0	0	0	0	0	0	0	0	0	0	744	31	722	31	306	31	115	25	0	0
	SEPT.	99	92	55	60	0	0	0	0	0	0	0	0	0	0	0	0	720	30	661	30	109	18	0	0	0	0
	OCT.	90	82	37	46	0	0	0	0	0	0	0	0	45	13	162	26	581	31	396	31	0	0	0	0	0	0
	NOV.	* 84		31		0	0	0	0	0	0	0	0	100	16	227	22	303	23	167	15	0	0	0	0	0	0
	DEC.	63	54	21	30	0	0	11	3	58	13	151	20	511	31	621	31	123	22	13	4	0	0	0	0	0	0
	ANNUAL	111	76	21	46	0	0	13	4	129	28	367	62	1930	184	2681	223	5664	337	4003	256	945	106	254	54	0	0
1968	JAN.	* 67	52	22	29	0	0	12	3	44	10	125	21	476	31	566	31	154	22	21	4	0	0	0	0	0	0
	FEB.	76	57	33	43	0	0	0	0	0	0	0	0	121	17	539	28	416	29	149	21	0	0	0	0	0	0
	MAR.	85	69	30	38	0	0	0	0	0	0	8	3	200	27	295	25	449	31	217	25	0	0	0	0	0	0
	APR	91	76	29	40	0	0	0	0	0	0	3	1	124	22	211	29	509	30	338	30	5	2	0	0	0	0
	MAY	99	83	33	48	0	0	0	0	0	0	0	0	37	9	88	21	656	31	482	31	27	5	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)
Station F-75-070

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN.																										
	FEB.																										
	MAR.																										
	APR.																										
	MAY	* 96	80	40	56	0	0	0	0	0	0	0	0	4	1	21	5	681	30	533	30	16	4	0	0	0	0
	JUN.	103	87	50	59	0	0	0	0	0	0	0	0	0	0	1	1	719	30	631	30	72	11	10	2	0	0
	JUL.	106	96	55	64	0	0	0	0	0	0	0	0	0	0	0	0	744	31	729	31	192	24	40	10	0	0
	AUG.	106	95	50	64	0	0	0	0	0	0	0	0	0	0	0	0	744	31	720	31	176	25	23	6	0	0
	SEPT.	105	91	56	63	0	0	0	0	0	0	0	0	0	0	0	0	720	30	693	30	92	16	14	4	0	0
	OCT	97	76	42	54	0	0	0	0	0	0	0	0	3	1	19	6	725	31	473	31	16	3	0	0	0	0
	NOV.	74	62	31	42	0	0	0	0	0	0	1	1	185	21	329	26	391	27	125	16	0	0	0	0	0	0
	DEC.	* 62		22		0	0	1	1	15	3	74	14	488	26	550	26	39	7	1	1	0	0	0	0	0	0
	ANNUAL	106																									
1964	JAN	* 63	54	28	36	0	0	0	0	1	1	60	10	403	29	536	30	167	24	10	3	0	0	0	0	0	0
	FEB	70	61	28	35	0	0	0	0	2	1	9	4	313	29	443	29	253	28	74	13	0	0	0	0	0	0
	MAR	84	65	26	39	0	0	0	0	3	1	10	3	239	26	362	30	382	30	162	19	0	0	0	0	0	0
	APR	92	71	33	45	0	0	0	0	0	0	0	0	89	19	179	25	541	30	308	26	4	1	0	0	0	0
	MAY	96	78	35	51	0	0	0	0	0	0	0	0	22	6	72	9	672	31	449	28	14	3	0	0	0	0
	JUN	108	88	43	58	0	0	0	0	0	0	0	0	0	0	3	1	717	30	602	30	74	11	24	3	0	0
	JUL.	107	98	53	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	728	31	290	28	54	12	0	0
	AUG.	104	96	53	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	709	31	196	24	45	13	0	0
	SEPT.	99	87	49	56	0	0	0	0	0	0	0	0	0	0	1	1	719	30	579	30	54	10	0	0	0	0
	OCT.	95	82	46	53	0	0	0	0	0	0	0	0	0	0	24	5	720	31	537	31	32	9	0	0	0	0
	NOV	73	59	29	40	0	0	0	0	0	0	25	6	264	24	372	27	348	28	68	14	0	0	0	0	0	0
	DEC.	71	57	21	39	0	0	6	1	11	2	46	9	302	23	416	27	328	26	77	8	0	0	0	0	0	0
	ANNUAL	108	75	21	49	0	0	6	1	17	5	150	32	1632	156	2408	184	6335	350	4303	264	664	86	123	28	0	0
1965	JAN.	66	53	26	37	0	0	0	0	3	1	43	10	360	24	580	30	164	21	12	3	0	0	0	0	0	0
	FEB	77	61	26	35	0	0	0	0	7	1	37	10	349	27	435	28	237	26	95	16	0	0	0	0	0	0
	MAR	77	66	32	42	0	0	0	0	0	0	0	0	141	22	310	31	* 434	31	187	27	0	0	0	0	0	0
	APR	93	70	32	48	0	0	0	0	0	0	1	1	61	9	195	16	525	30	277	18	12	3	0	0	0	0
	MAY	96	81	35	51	0	0	0	0	0	0	0	0	21	4	45	10	699	31	520	31	26	4	0	0	0	0
	JUN	99	85	44	54	0	0	0	0	0	0	0	0	0	0	16	6	704	30	560	30	32	8	0	0	0	0
	JUL.	105	96	53	63	0	0	0	0	0	0	0	0	0	0	0	0	744	31	713	31	186	26	27	7	0	0
	AUG	103	96	54	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	733	31	193	26	22	8	0	0
	SEPT.	96	84	45	55	0	0	0	0	0	0	0	0	0	0	8	3	712	30	561	30	21	7	0	0	0	0
	OCT.	94	84	41	52	0	0	0	0	0	0	0	0	8	2	25	8	719	31	503	31	24	7	0	0	0	0
	NOV	82	64	33	46	0	0	0	0	0	0	0	0	103	12	207	23	513	30	176	21	0	0	0	0	0	0
	DEC.	* 63	50	22	31	0	0	6	5	60	10	120	15	472	28	591	29	74	12	2	1	0	0	0	0	0	0
	ANNUAL	105	74	22	49	0	0	6	5	70	12	201	36	1515	128	2412	184	6269	334	4339	270	494	81	49	15	0	0
1966	JAN	* 61	54	25	33	0	0	0	0	36	8	95	11	367	27	523	29	144	20	12	5	0	0	0	0	0	0
	FEB.	72	57	25	34	0	0	0	0	11	2	82	15	288	25	448	28	224	25	26	9	0	0	0	0	0	0
	MAR	90	68	27	41	0	0	0	0	2	1	16	3	141	23	288	29	456	30	260	27	0	0	0	0	0	0
	APR	93	81	38	48	0	0	0	0	0	0	0	0	17	5	53	15	667	30	427	30	13	3	0	0	0	0
	MAY	97	84	45	54	0	0	0	0	0	0	0	0	0	0	18	8	726	31	593	31	43	8	0	0	0	0
	JUN.	106	91	46	59	0	0	0	0	0	0	0	0	0	0	6	2	714	30	653	30	118	14	32	8	0	0
	JUL.	107	95	51	62	0	0	0	0	0	0	0	0	0	0	0	0	744	31	709	31	165	21	45	10	0	0
	AUG	108	99	50	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	728	31	248	27	102	19	0	0
	SEPT.	* 103	89	48	59	0	0	0	0	0	0	0	0	0	0	1	1	713	30	651	30	47	10	5	2	0	0
	OCT.	92	81	40	51	0	0	0	0	0	0	0	0	15	6	48	12	696	31	486	31	2	2	0	0	0	0
	NOV.	86	67	31	45	0	0	0	0	0	0	1	1	109	14	201	22	519	30	221	22	0	0	0	0	0	0
	DEC.	* 65		25		0	0	0	0	5	1	29	4	389	26	512	27	94	11	16	3	0	0	0	0	0	0
	ANNUAL	108	77	25	50	0	0	0	0	54	12	223	34	1326	126	2098	173	6441	300	4782	250	518	54	152	31	0	0
1967	JAN.	64	56	25	36	0	0	1	1	21	7	79	10	392	27	512	30	232	25	28	10	0	0	0	0	0	0
	FEB	* 74	57	26	35	0	0	0	0	3	1	14	4	359	28	478	28	180	24	34	8	0	0	0	0	0	0
	MAR.	72	64	28	38	0	0	0	0	4	2	23	5	203	26	329	29	415	31	142	24	0	0	0	0	0	0
	APR.	66	60	30	37	0	0	0	0	0	0	3	2	243	29	428	30	292	29	45	14	0	0	0	0	0	0
	MAY	104	83	30	50	0	0	0	0	0	0	0	0	30	9	73	17	671	31	489	31	73	9	16	4	0	0
	JUN.	* 108	88	46	54	0	0	0	0	0	0	0	0	0	0	10	5	706	30	549	30	112	15	21	4	0	0
	JUL.	110	102	55	66	0	0	0	0	0	0	0	0	0	0	0	0	744	31	734	31	292	31	97	18	0	0
	AUG.	109	104	60	67	0	0	0	0	0	0	0	0	0	0	0	0	744	31	744	31	317	30	142	28	0	0
	SEPT.	* 99	91	57	62	0	0	0	0	0	0	0	0	0	0	0	0	710	30	693	30	97	19	0	0	0	0
	OCT.	* 89	81	41	49	0	0	0	0	0	0	0	0	9	3	62	18	680	31	423	31	0	0	0	0	0	0
	NOV.	84	68	32	45	0	0	0	0	0	0	1	1	70	11	218	25	502	30	225	23	0	0	0	0	0	0
	DEC.	62	52	20	30	1	1	7	3	55	10	140	18	506	30	623	31	121	20	7	4	0	0	0	0	0	0
	ANNUAL	110	76	20	48	1	1	8	4	83	20	260	40	1812	163	2733	213	5997	343	4113	267	891	104	276	54	0	0
1968	JAN.	72	55	24	32	0	0	1	1	40	8	92	16	474	31	560	31	184	22	45	11	0	0	0	0	0	0
	FEB.	* 76		33		0	0	0	0	0	0	0	0	33	7	116	13	306	23	101	15	0	0	0	0	0	0
	MAR.	* 85	69	30	41	0	0	0	0	0	0	4	1	127	21	222	29	495	31	237	29	0	0	0	0	0	0
	APR.	* 92	77	33	46	0	0	0	0	0	0	0	0	52	14	134	20	567	30	366	29	7	2	0	0	0	0
	MAY	* 99	83	40	51	0	0	0	0	0	0	0	0	10	4	35	10	671	31	530	31	30	6	0	0	0	0

* Partial record this month.

Table 15. AIR TEMPERATURE DETAILS (continued)

Station G-15-060

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥70		≥80		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN																										
	FEB																										
	MAR																										
	APR																										
	MAY																										
	JUN																										
	JUL	*				0	0	0	0	0	0	0	0	0	0	0	0	515	22	491	22	194	22	48	7	0	0
	AUG	104	94	48	57	0	0	0	0	0	0	0	0	0	0	5	5	739	31	659	31	154	22	13	4	0	0
	SEPT	106	90	49	58	0	0	0	0	0	0	0	0	0	0	2	1	718	30	628	30	110	17	14	6	0	0
	OCT	96	76	34	49	0	0	0	0	0	0	0	0	24	6	95	19	649	31	413	31	15	3	0	0	0	0
	NOV	77	61	30	40	0	0	0	0	0	0	11	4	252	23	347	29	373	28	126	14	0	0	0	0	0	0
	DEC.	59	47	21	31	0	0	11	3	47	9	125	16	665	31	706	31	42	12	0	0	0	0	0	0	0	0
	ANNUAL																										
1964	JAN	63	54	20	31	2	1	22	7	81	14	142	16	439	31	585	31	159	23	2	2	0	0	0	0	0	0
	FEB.	72	62	23	30	0	0	1	1	35	13	108	24	333	29	437	29	259	27	103	19	0	0	0	0	0	0
	MAR	83	65	25	33	0	0	0	0	13	5	61	11	267	30	375	31	369	30	162	20	0	0	0	0	0	0
	APR	92	73	30	40	0	0	0	0	0	0	0	0	141	25	228	28	492	30	292	30	5	2	0	0	0	0
	MAY	98	79	28	45	0	0	0	0	0	0	2	2	53	12	128	22	616	31	406	27	15	3	0	0	0	0
	JUN.	109	86	42	54	0	0	0	0	0	0	0	0	2	2	13	7	707	30	589	30	87	11	25	4	0	0
	JUL	108	98	47	62	0	0	0	0	0	0	0	0	0	0	3	2	741	31	708	31	240	30	47	9	0	0
	AUG	103	95	50	61	0	0	0	0	0	0	0	0	0	0	0	0	744	31	696	31	211	27	24	7	0	0
	SEPT	98	87	45	50	0	0	0	0	0	0	0	0	1	1	42	15	678	30	525	29	55	12	0	0	0	0
	OCT	95	83	40	50	0	0	0	0	0	0	0	0	12	3	66	18	678	31	462	31	40	9	0	0	0	0
	NOV	74	60	24	38	0	0	0	0	18	6	50	7	232	22	350	28	370	30	93	13	0	0	0	0	0	0
	DEC.	73	57	22	36	0	0	3	2	20	5	58	10	299	24	429	27	315	27	76	8	0	0	0	0	0	0
	ANNUAL	109	75	20	44	2	1	26	10	167	43	421	70	1779	179	2656	233	6128	351	4114	271	653	94	96	20	0	0
1965	JAN	70	54	24	37	0	0	2	1	12	4	58	12	368	25	532	30	212	24	6	1	0	0	0	0	0	0
	FEB.	75	62	25	35	0	0	0	0	7	3	26	7	290	26	387	28	285	26	114	17	0	0	0	0	0	0
	MAR	79	66	31	39	0	0	0	0	0	0	2	2	178	28	325	31	419	31	178	27	0	0	0	0	0	0
	APR	93	68	31	45	0	0	0	0	0	0	12	1	102	16	268	24	452	29	239	19	10	3	0	0	0	0
	MAY	97	81	30	46	0	0	0	0	0	0	1	1	27	7	73	18	671	31	507	31	30	5	0	0	0	0
	JUN	98	85	43	53	0	0	0	0	0	0	0	0	2	2	21	8	699	30	557	30	41	8	0	0	0	0
	JUL.	* 103	95	50	60	0	0	0	0	0	0	0	0	0	0	0	0	647	30	597	30	155	22	13	4	0	0
	AUG	101	95	55	62	0	0	0	0	0	0	0	0	0	0	0	0	744	31	710	31	178	24	9	4	0	0
	SEPT	96	84	41	51	0	0	0	0	0	0	0	0	6	5	35	9	685	30	488	30	29	6	0	0	0	0
	OCT	92	83	35	47	0	0	0	0	0	0	0	0	20	7	117	26	627	31	408	31	17	5	0	0	0	0
	NOV	* 81	62	33	43	0	0	0	0	0	0	0	0	118	15	280	23	423	30	108	15	0	0	0	0	0	0
	DEC.	56	48	21	32	0	0	13	5	77	10	146	16	571	31	708	31	36	8	0	0	0	0	0	0	0	0
	ANNUAL	103	73	21	45	0	0	15	6	96	17	245	39	1682	162	2746	228	5900	331	3912	262	460	73	22	8	0	0
1966	JAN	64	54	21	31	0	0	9	4	83	12	142	18	448	30	602	31	142	21	15	5	0	0	0	0	0	0
	FEB.	75	58	25	33	0	0	0	0	19	6	82	14	302	27	463	28	209	25	52	9	0	0	0	0	0	0
	MAR	87	69	27	38	0	0	0	0	8	2	18	6	208	28	331	31	413	31	259	28	0	0	0	0	0	0
	APR	94	80	36	43	0	0	0	0	0	0	0	0	92	23	187	30	533	30	372	29	5	2	0	0	0	0
	MAY	98	85	41	51	0	0	0	0	0	0	0	0	7	5	43	13	701	31	525	31	48	9	0	0	0	0
	JUN.	107	91	40	55	0	0	0	0	0	0	0	0	3	2	21	7	699	30	607	30	121	15	23	4	0	0
	JUL.	108	95	48	58	0	0	0	0	0	0	0	0	0	0	2	1	742	31	663	31	164	22	34	7	0	0
	AUG.	106		48		0	0	0	0	0	0	0	0	0	0	3	1	574	25	543	26	177	20	69	14	0	0
	SEPT	101	87	44	54	0	0	0	0	4	2	32	4	110	8	145	11	575	25	453	25	17	4	0	0	0	0
	OCT	91	80	35	46	0	0	0	0	0	0	0	0	69	14	165	23	579	31	395	31	2	1	0	0	0	0
	NOV	86	67	29	42	0	0	0	0	0	0	15	4	135	19	265	27	455	30	170	22	0	0	0	0	0	0
	DEC	* 63	50	26	37	0	0	0	0	18	3	34	4	407	27	560	28	137	13	17	5	0	0	0	0	0	0
	ANNUAL	108	76	21	45	0	0	9	4	132	25	323	50	1781	183	2787	231	5750	323	4071	272	534	73	126	25	0	0
1967	JAN.	66	56	24	33	0	0	4	3	46	10	108	15	414	28	514	31	230	26	21	7	0	0	0	0	0	0
	FEB.	* 74	57	26	34	0	0	0	0	4	1	28	8	386	26	487	28	178	21	39	10	0	0	0	0	0	0
	MAR.	74	64	25	36	0	0	0	0	3	1	25	6	212	27	341	31	403	31	165	22	0	0	0	0	0	0
	APR.	69	60	30	36	0	0	0	0	0	0	17	6	248	26	415	30	305	29	51	12	0	0	0	0	0	0
	MAY	103	84	37	49	0	0	0	0	0	0	0	0	26	9	66	19	658	31	484	31	81	11	12	3	0	0
	JUN.	106	88	44	55	0	0	0	0	0	0	0	0	3	2	29	9	691	30	572	30	120	16	16	4	0	0
	JUL.	108	101	55	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	734	31	314	31	97	20	0	0
	AUG.	107	102	58	65	0	0	0	0	0	0	0	0	0	0	0	0	744	31	740	31	314	31	108	23	0	0
	SEPT	99	91	55	61	0	0	0	0	0	0	0	0	0	0	0	0	720	30	678	30	95	18	0	0	0	0
	OCT	89	81	40	47	0	0	0	0	0	0	0	0	31	10	116	25	686	31	397	30	0	0	0	0	0	0
	NOV	* 79	69	32	44	0	0	0	0	0	0	0	0	63	14	232	25	389	26	204	19	0	0	0	0	0	0
	DEC.	63	53	20	30	2	1	15	4	63	10	159	22	516	31	601	31	143	22	10	4	0	0	0	0	0	0
	ANNUAL	108	76	20	46	2	1	19	7	116	22	337	57	1919	177	2823	229	5831	339	4095	257	924	107	233	50	0	0
1968	JAN.	77	56	20	30	1	1	12	3	37	7	152	24	465	31	539	31	205	22	53	13	0	0	0	0	0	0
	FEB.	78	65	31	43	0	0	0	0	0	0	2	1	99	16	253	24	443	29	160	21	0	0	0	0	0	0
	MAR.	87	70	32	39	0	0	0	0	0	0	2	1	161	26	268	30	476	31	258	29	0	0	0	0	0	0
	APR	91	78	36	44	0	0	0	0	0	0	0	0	61	21	173	26	549	30	369	30	10	4	0	0	0	0
	MAY	97	82	38	49	0	0	0	0	0	0	0	0	26	9	87	27	657	31	487	31	25	6	0	0	0	0

* Partial record this month.

Table 15: AIR TEMPERATURE DETAILS (continued)

Bakersfield U. S. Weather Bureau

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																			
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN	70	57	20	32	1		2		11		19		29		29		25		10		0		0		0	
	FEB	79	68	41	48	0		0		0		0		7		22		28		26		0		0		0	
	MAR	80	67	38	44	0		0		0		0		17		29		31		26		0		0		0	
	APR	79	68	37	47	0		0		0		0		11		22		30		28		0		0		0	
	MAY	95	81	45	57	0		0		0		0		1		3		31		31		5		0		0	
	JUN	103	87	54	62	0		0		0		0		0		0		30		30		10		3		0	
	JUL	103	94	57	66	0		0		0		0		0		0		31		31		22		6		0	
	AUG	101	93	56	66	0		0		0		0		0		0		31		31		26		3		0	
	SEPT	107	89	59	65	0		0		0		0		0		0		30		30		15		3		0	
	OCT	94	77	50	56	0		0		0		0		0		1		31		31		3		0		0	
	NOV	79	64	35	45	0		0		0		0		16		26		27		22		0		0		0	
	DEC.	61	49	26	34	0		0		2		9		31		31		11		2		0		0		0	
	ANNUAL	107	75	20	52	1		2		13		28		112		163		336		298		81		15		0	
1964	JAN	68	57	29	36	0		0		0		7		31		31		25		10		0		0		0	
	FEB	75	65	30	37	0		0		0		2		29		29		29		23		0		0		0	
	MAR	89	67	34	42	0		0		0		0		25		28		31		24		0		0		0	
	APR	96	75	40	49	0		0		0		0		9		19		30		28		2		0		0	
	MAY	96	81	41	54	0		0		0		0		4		8		31		30		4		0		0	
	JUN	111	91	52	63	0		0		0		0		0		0		30		30		17		5		1	
	JUL	110	99	60	69	0		0		0		0		0		0		31		31		29		14		1	
	AUG	104	97	58	69	0		0		0		0		0		0		31		31		27		11		0	
	SEPT	100	88	51	60	0		0		0		0		0		0		30		30		14		1		0	
	OCT	97	85	49	57	0		0		0		0		0		3		31		31		10		0		0	
	NOV	77	62	30	41	0		0		0		3		24		26		28		20		0		0		0	
	DEC	75	60	26	42	0		0		2		5		21		25		28		13		0		0		0	
	ANNUAL	111	77	26	52	0		0		2		17		143		171		355		301		103		31		1	
1965	JAN	71	56	29	39	0		0		0		4		26		30		24		6		0		0		0	
	FEB	76	62	28	39	0		0		1		2		26		28		25		17		0		0		0	
	MAR	84	68	40	46	0		0		0		0		10		27		31		28		0		0		0	
	APR	98	73	40	51	0		0		0		0		8		18		30		25		4		0		0	
	MAY	98	83	42	56	0		0		0		0		3		6		31		31		8		0		0	
	JUN	97	86	51	60	0		0		0		0		0		0		30		30		13		0		0	
	JUL	105	96	60	68	0		0		0		0		0		0		31		31		26		6		0	
	AUG	102	96	60	69	0		0		0		0		0		0		31		31		27		6		0	
	SEPT	93	85	54	60	0		0		0		0		0		0		30		30		6		0		0	
	OCT	97	84	46	55	0		0		0		0		0		3		31		31		9		0		0	
	NOV	85	66	36	49	0		0		0		0		8		16		29		22		0		0		0	
	DEC	63	49	25	37	0		0		1		8		31		31		15		1		0		0		0	
	ANNUAL	105	75	25	52	0		0		2		14		112		159		338		283		93		12		0	
1966	JAN	68	57	31	37	0		0		0		5		30		30		27		10		0		0		0	
	FEB	75	60	32	38	0		0		0		3		23		27		25		14		0		0		0	
	MAR	87	70	31	45	0		0		0		2		17		25		31		28		0		0		0	
	APR	92	81	44	54	0		0		0		0		1		8		30		30		3		0		0	
	MAY	102	86	49	59	0		0		0		0		0		1		31		31		10		1		0	
	JUN	107	92	51	64	0		0		0		0		0		0		30		30		17		5		0	
	JUL	106	96	59	66	0		0		0		0		0		0		31		31		28		8		0	
	AUG	108	99	57	70	0		0		0		0		0		0		31		31		26		19		0	
	SEPT.	101	87	51	62	0		0		0		0		0		0		30		30		8		2		0	
	OCT.	92	80	45	54	0		0		0		0		1		10		31		31		2		0		0	
	NOV	90	67	39	48	0		0		0		0		8		21		30		23		1		0		0	
	DEC.	69	52	29	40	0		0		0		4		25		29		13		6		0		0		0	
	ANNUAL	108	77	29	53	0		0		0		14		105		151		340		295		95		35		0	
1967	JAN	68	57	25	36	0		0		3		10		26		31		25		14		0		0		0	
	FEB	73	59	33	40	0		0		0		0		27		28		25		14		0		0		0	
	MAR	77	67	35	45	0		0		0		0		18		28		31		27		0		0		0	
	APR	70	61	40	44	0		0		0		0		19		30		30		20		0		0		0	
	MAY	102	83	41	57	0		0		0		0		1		6		31		31		11		4		0	
	JUN.	105	89	48	62	0		0		0		0		0		1		30		30		16		2		0	
	JUL	109	101	65	73	0		0		0		0		0		0		31		31		31		17		0	
	AUG.	111	102	68	74	0		0		0		0		0		0		31		31		31		25		1	
	SEPT.	99	92	63	69	0		0		0		0		0		0		30		30		22		0		0	
	OCT.	93	82	45	56	0		0		0		0		1		2		31		31		3		0		0	
	NOV	83	70	42	52	0		0		0		0		4		11		30		23		0		0		0	
	DEC.	66	55	25	36	0		0		1		3		31		31		23		8		0		0		0	
	ANNUAL	111	77	25	54	0		0		4		13		127		168		348		290		114		48		1	
1968	JAN.	75	69	31	38	0		0		0		1		28		31		24		14		0		0		0	
	FEB.	80	68	38	50	0		0		0		0		7		12		29		27		0		0		0	
	MAR.	88	72	39	48	0		0		0		0		9		22		31		30		0		0		0	
	APR	94	79	38	52	0		0		0		0		4		14		30		30		5		0		0	
	MAY	99	83	45	57	0		0		0		0		1		2		31		31		12		0		0	

Table 15: AIR TEMPERATURE DETAILS (continued)
Fresno U. S. Weather Bureau

YEAR	MONTH	RECORD IN DEGREES F				NO HRS TEMPERATURE WAS IN INDICATED RANGE - NO DAYS ON WHICH THESE TEMPERATURES OCCURRED																			
		HIGH		LOW		≤20		≤24		≤28		≤32		≤45		≤50		>50		≥60		≥90		≥100		≥110	
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN	65	55	19	30	1	8	14	23	29	30	23	8	0	0	0											
	FEB	74	66	38	46	0	0	0	0	9	25	28	27	0	0	0											
	MAR	78	65	34	41	0	0	0	0	26	31	31	27	0	0	0											
	APR	80	67	34	45	0	0	0	0	15	26	30	27	0	0	0											
	MAY	97	81	44	54	0	0	0	0	1	6	31	31	4	0	0											
	JUN	104	88	49	58	0	0	0	0	0	1	30	30	13	3	0											
	JUL	103	96	54	61	0	0	0	0	0	0	31	31	25	10	0											
	AUG	104	95	54	61	0	0	0	0	0	0	31	31	25	9	0											
	SEPT	107	91	56	62	0	0	0	0	0	0	30	30	19	4	0											
	OCT	95	78	41	53	0	0	0	0	1	7	31	31	3	0	0											
	NOV	76	61	34	43	0	0	0	0	20	25	26	15	0	0	0											
	DEC.	54	45	27	35	0	0	1	5	31	31	5	0	0	0	0											
	ANNUAL	107	74	19	49	1	8	15	28	132	182	307	261	92	26	0											
1964	JAN	63	53	25	34	0	0	4	10	31	31	23	3	0	0	0											
	FEB	70	62	28	32	0	0	1	16	29	29	29	20	0	0	0											
	MAR	89	65	29	38	0	0	0	4	31	31	30	22	0	0	0											
	APR	93	74	33	44	0	0	0	0	20	28	30	28	0	0	0											
	MAY	96	80	38	50	0	0	0	0	8	15	31	31	4	0	0											
	JUN	110	90	48	57	0	0	0	0	0	3	30	30	16	6	1											
	JUL.	107	99	53	63	0	0	0	0	0	0	31	31	30	14	0											
	AUG	105	97	54	61	0	0	0	0	0	0	31	31	29	11	0											
	SEPT	98	89	48	53	0	0	0	0	0	2	30	30	14	0	0											
	OCT	96	84	44	52	0	0	0	0	1	11	31	31	10	0	0											
	NOV	74	62	29	41	0	0	0	5	21	26	30	19	0	0	0											
	DEC	70	57	30	41	0	0	0	4	20	26	22	11	0	0	0											
	ANNUAL	110	76	25	47	0	0	5	39	161	208	348	287	103	31	1											
1965	JAN	68	53	29	39	0	0	0	5	25	29	24	5	0	0	0											
	FEB	75	62	29	37	0	0	0	5	27	28	25	18	0	0	0											
	MAR	80	68	35	43	0	0	0	0	23	31	31	29	0	0	0											
	APR	95	72	42	49	0	0	0	0	8	18	30	22	5	0	0											
	MAY	100	85	36	50	0	0	0	0	7	15	31	31	12	1	0											
	JUN	99	87	48	55	0	0	0	0	0	4	30	30	12	0	0											
	JUL	104	96	53	61	0	0	0	0	0	0	31	31	29	8	0											
	AUG	103	95	55	62	0	0	0	0	0	0	31	31	24	8	0											
	SEPT	92	85	45	52	0	0	0	0	1	8	30	30	9	0	0											
	OCT	96	83	37	48	0	0	0	0	5	23	31	31	7	0	0											
	NOV	82	65	33	44	0	0	0	0	21	23	30	23	0	0	0											
	DEC.	58	49	25	35	0	0	5	12	30	30	16	0	0	0	0											
	ANNUAL	104	75	25	48	0	0	5	22	147	209	340	281	96	17	0											
1966	JAN	65	54	25	32	0	0	13	17	31	31	22	9	0	0	0											
	FEB	75	59	30	35	0	0	0	11	26	28	28	11	0	0	0											
	MAR	89	70	26	42	0	0	1	3	25	30	31	27	0	0	0											
	APR	93	82	39	49	0	0	0	0	6	16	30	30	6	0	0											
	MAY	100	87	48	54	0	0	0	0	0	5	31	31	14	1	0											
	JUN	108	93	48	59	0	0	0	0	0	3	30	30	18	8	0											
	JUL	108	96	54	60	0	0	0	0	0	0	31	31	26	9	0											
	AUG	106	100	49	62	0	0	0	0	0	1	31	31	27	20	0											
	SEPT.	101	89	48	56	0	0	0	0	0	3	30	30	15	3	0											
	OCT	92	81	36	49	0	0	0	0	10	18	31	31	3	0	0											
	NOV	88	68	33	46	0	0	0	0	13	22	30	24	0	0	0											
	DEC	62	50	26	40	0	0	1	5	26	29	13	4	0	0	0											
	ANNUAL	108	77	25	49	0	0	15	36	137	186	338	289	109	41	0											
1967	JAN	64	55	26	46	0	0	3	10	28	31	24	12	0	0	0											
	FEB	76	58	31	39	0	0	0	1	28	28	22	14	0	0	0											
	MAR	75	65	33	43	0	0	0	0	18	29	31	24	0	0	0											
	APR	69	62	37	43	0	0	0	0	24	30	30	20	0	0	0											
	MAY	104	84	40	53	0	0	0	0	5	12	31	31	11	3	0											
	JUN.	107	90	49	58	0	0	0	0	0	1	30	30	16	5	0											
	JUL.	108	101	59	66	0	0	0	0	0	0	31	31	31	21	0											
	AUG	108	101	59	66	0	0	0	0	0	0	31	31	31	24	0											
	SEPT	101	93	57	62	0	0	0	0	0	0	30	30	26	1	0											
	OCT.	90	83	40	49	0	0	0	0	5	22	31	31	4	0	0											
	NOV	84	68	33	46	0	0	0	0	14	23	30	22	0	0	0											
	DEC.	63	53	21	32	0	1	5	16	31	31	17	6	0	0	0											
	ANNUAL	108	76	21	50	0	1	8	27	153	207	338	282	119	54	0											
1968	JAN	69	54	26	35	0	0	1	7	30	31	23	11	0	0	0											
	FEB	75	64	37	47	0	0	0	0	9	18	29	23	0	0	0											
	MAR	85	69	37	43	0	0	0	0	19	31	31	29	0	0	0											
	APR	93	78	33	45	0	0	0	0	15	25	30	30	3	0	0											
	MAY	99	84	41	52	0	0	0	0	3	14	31	31	11	0	0											

Table 15: AIR TEMPERATURE DETAILS (continued)
Kern County Land Company Citrus Station

YEAR	MONTH	RECORD IN DEGREES F				NO. HRS. TEMPERATURE WAS IN INDICATED RANGE - NO. DAYS ON WHICH THESE TEMPERATURES OCCURRED																					
		HIGH		LOW		≤20		≤24		≤28		≤32		≤40		≤50		>80		≥90		≥100		≥110			
		MAX	AV	MIN	AV	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS	HRS	DAYS
1963	JAN.	73	58	21	33	0	0	3	1	7	6													0	0	0	0
	FEB.	82	68	42	49	0	0	0	0	0	0													0	0	0	0
	MAR.	82	69	38	45	0	0	0	0	0	0													0	0	0	0
	APR	80	68	39	49	0	0	0	0	0	0													0	0	0	0
	MAY	96	81	49	59	0	0	0	0	0	0													0	0	0	0
	JUN.	102	86	52	62	0	0	0	0	0	0													3	3	0	0
	JUL.	102	93	55	60	0	0	0	0	0	0													4	4	0	0
	AUG	102	95	58	60	0	0	0	0	0	0													1	2	0	0
	SEPT	108	89	59	65	0	0	0	0	0	0													6	2	0	0
	OCT	96	77	49	56	0	0	0	0	0	0													0	0	0	0
	NOV.	82	64	34	45	0	0	0	0	0	0													0	0	0	0
	DEC.	66	48	26	33	0	0	0	0	10	2													0	0	0	0
	ANNUAL	108	75	21	52	0	0	3	1	17	8													14	11	0	0
1964	JAN	70	56	27	35	0	0	0	0	3	3													0	0	0	0
	FEB.	74	64	30	36	0	0	0	0	0	0													0	0	0	0
	MAR.	89	69	32	41	0	0	0	0	0	0													0	0	0	0
	APR	94	73	39	47	0	0	0	0	0	0													0	0	0	0
	MAY	94	78	40	53	0	0	0	0	0	0													0	0	0	0
	JUN	108	87	52	62	0	0	0	0	0	0													20	5	0	0
	JUL.	106	94	56	65	0	0	0	0	0	0													20	5	0	0
	AUG	104	94	54	64	0	0	0	0	0	0													6	4	0	0
	SEPT	98	86	48	54	0	0	0	0	0	0													0	0	0	0
	OCT	97	84	44	54	0	0	0	0	0	0													0	0	0	0
	NOV	80	61	27	38	0	0	0	0	4	4													0	0	0	0
	DEC.	76	62	21	39	0	0	3	2	12	4													0	0	0	0
	ANNUAL	108	75	21	49	0	0	3	2	19	11													46	14	0	0
1965	JAN	74	55	30	36	0	0	0	0	0	0													0	0	0	0
	FEB	76	61	27	36	0	0	0	0	1	1													0	0	0	0
	MAR	77	65	36	44	0	0	0	0	0	0													0	0	0	0
	APR	95	70	37	47	0	0	0	0	0	0													0	0	0	0
	MAY	96	79	37	51	0	0	0	0	0	0													0	0	0	0
	JUN.	98	83	46	56	0	0	0	0	0	0													0	0	0	0
	JUL.	101	92	56	63	0	0	0	0	0	0													2	2	0	0
	AUG	101	93	57	64	0	0	0	0	0	0													2	2	0	0
	SEPT	93	86	46	55	0	0	0	0	0	0													0	0	0	0
	OCT	95	85	40	49	0	0	0	0	0	0													0	0	0	0
	NOV	86	66	34	45	0	0	0	0	0	0													0	0	0	0
	DEC.	63	49	26	35	0	0	0	0	3	2													0	0	0	0
	ANNUAL	101	74	26	48	0	0	0	0	4	3													4	4	0	0
1966	JAN	73	58	27	35	0	0	0	0	2	2													0	0	0	0
	FEB	74	62	29	38	0	0	0	0	0	0													0	0	0	0
	MAR	90	72	30	44	0	0	0	0	0	0													0	0	0	0
	APR	97	84	41	49	0	0	0	0	0	0													0	0	0	0
	MAY	100	88	49	56	0	0	0	0	0	0													1	1	0	0
	JUN.	106	91	48	61	0	0	0	0	0	0													15	5	0	0
	JUL.	101	94	55	62	0	0	0	0	0	0													6	4	0	0
	AUG	109	100	53	66	0	0	0	0	0	0													114	21	0	0
	SEPT	103	88	47	56	0	0	0	0	0	0													4	2	0	0
	OCT.	94	81	38	49	0	0	0	0	0	0													0	0	0	0
	NOV	91	68	31	43	0	0	0	0	0	0													0	0	0	0
	DEC.	67	54	25	37	0	0	0	0	9	3													0	0	0	0
	ANNUAL	109	78	25	50	0	0	0	0	11	5													140	33	0	0
1967	JAN	74	62	24	34	0	0	1	2	30	8													0	0	0	0
	FEB	76	63	30	38	0	0	0	0	0	0													0	0	0	0
	MAR	85	72	34	43	0	0	0	0	0	0													0	0	0	0
	APR	76	67	36	43	0	0	0	0	0	0													0	0	0	0
	MAY	107	87	40	55	0	0	0	0	0	0													20	6	0	0
	JUN.	107	90	43	57	0	0	0	0	0	0													14	3	0	0
	JUL.	106	101	60	66	0	0	0	0	0	0													82	24	0	0
	AUG	106	101	60	66	0	0	0	0	0	0													76	25	0	0
	SEPT	95	89	55	61	0	0	0	0	0	0													0	0	0	0
	OCT	88	81	42	48	0	0	0	0	0	0													0	0	0	0
	NOV	83	68	33	47	0	0	0	0	0	0													0	0	0	0
	DEC.	65	54	23	32	0	0	3	2	29	7													0	0	0	0
	ANNUAL	107	78	23	49	0	0	4	4	59	15													192	58	0	0
1968	JAN.																										
	FEB																										
	MAR																										
	APR																										
	MAY																										

BIBLIOGRAPHY

"The Climate of Kern County." C. Robert Elford, State Climatologist, and Max R. McDonough, Assistant Climatologist, United States Weather Bureau. Published by Kern County Board of Trade, 1964.

Discusses principal climate factors in the county. Contains extensive climate data from various parts of the county, including Station D-40-080 in the study area.

"Kern County's Climates, Soils, Waters, Crops." Donald A. Luvisi, Dewayne E. Gilbert, and George D. Peterson Jr., Editors. University of California Agricultural Extension Service, in cooperation with Environmental Service Administration, United States Weather Bureau. March 1967.

Discusses crop adaptability in the county in terms of soils and climates and includes a county-wide "plantclimate" map. Climate data from Station D-40-080 in the study area network is included.

"Vegetative Water Use." Bulletin No. 113-2. State of California, Department of Water Resources, Sacramento, California. August 1967.

Discusses factors affecting evapotranspiration and estimates of irrigation requirements in central and northern California.

"Agricultural Development of New Lands, West Side of the San Joaquin Valley--Land, Crops, and Economics." Report No. 1. [Prepared] by Special Committee Appointed by Dean J. H. Meyer, College of Agricultural and Environmental Sciences, Davis, California: University of California. February 15, 1968.

This study of the agricultural potential and problems of northwestern Kern County presents a limited amount of soil and climate data from the West Side Crop Adaptability Study. Discusses cropping patterns and compares irrigation methods.

_____. Report No. 2. [Prepared] by Special Committee Appointed by Dean J. H. Meyer, College of Agricultural and Environmental Sciences. Davis, California: University of California. December 15, 1968.

Presents findings of recent studies in western San Joaquin Valley placing particular emphasis on land reclamation. Includes field analysis of boron and salt-affected soils and tests of crop production. Discusses long-term research needs.

T U DEC 8 '81

THIS BOOK IS DUE ON THE LAST DATE
STAMPED BELOW

BOOKS REQUESTED BY ANOTHER BORROWER
ARE SUBJECT TO RECALL AFTER ONE WEEK.
RENEWED BOOKS ARE SUBJECT TO
IMMEDIATE RECALL

RECEIVED
JUN 20 1980
1980

PHYS SCI LIBRARY

APR 1983

RECEIVED
JUN 17 1983

JUL 5 1983

PHYS SCI LIBRARY

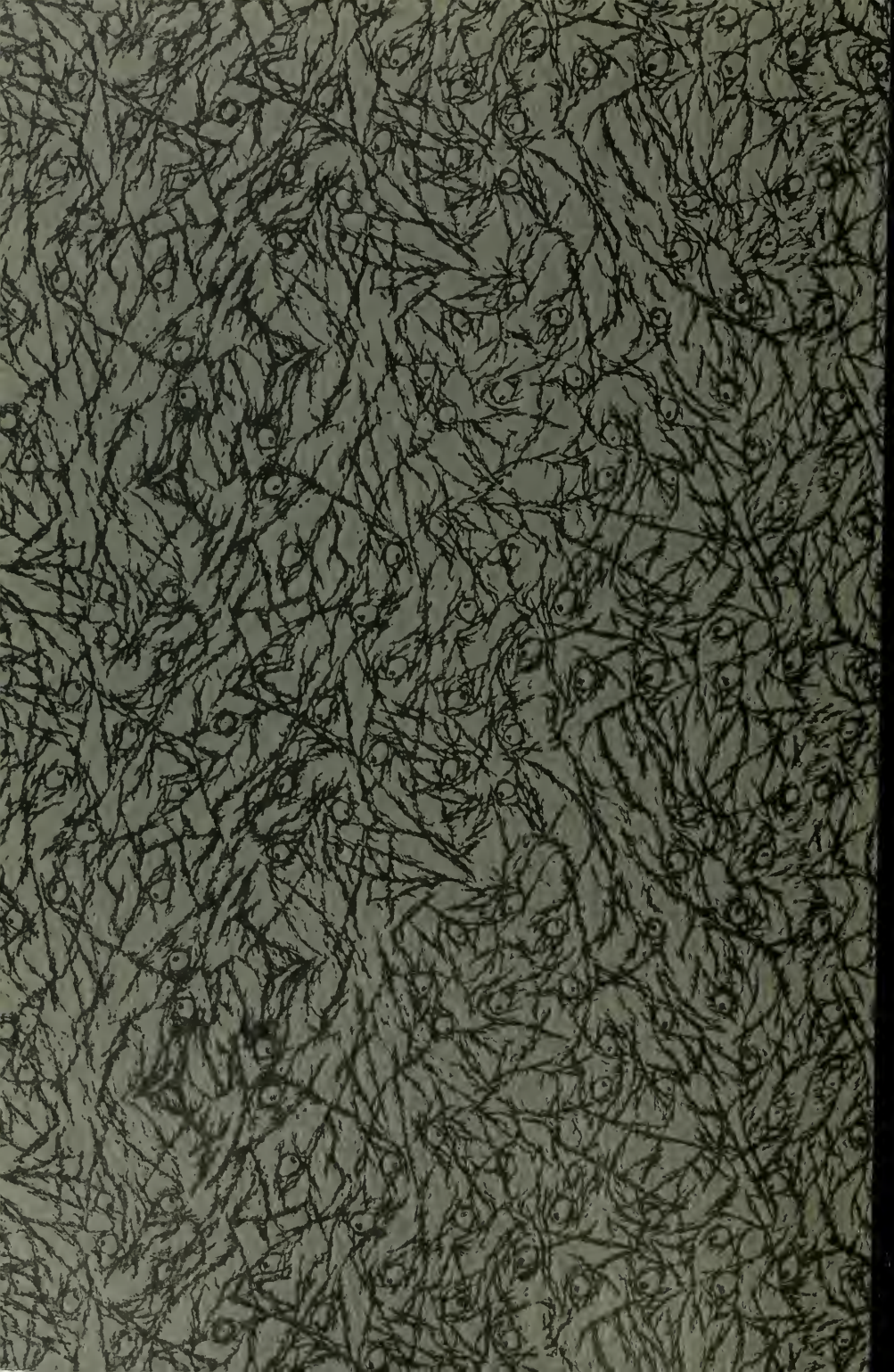
APR 01 1985

JAN 6 1986

SEP 25 1986

RECEIVED
SEP 2 1986

LIBRARY, UNIVERSITY OF CALIFORNIA, DAVIS
PHYS SCI LIBRARY

D4613 (12/76)

3 1175 00564 9150